

WESTLAKE



BASIN 8A
DRAINAGE
AGREEMENT
Review

OFFICE OF THE
CITY CLERK

VALERIE A. BURROWES, CMC/AAE,
CITY CLERK

VIRGINIA K. HENRY, CMC/AAE,
ASSISTANT CITY CLERK

WWW.CITYOFSACRAMENTO.ORG

CITY OF SACRAMENTO
CALIFORNIA

CITY HALL
915 I STREET
ROOM 304
SACRAMENTO, CA
95814-2671

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ADMINISTRATION
PH 916-264-5799

OPERATIONS SERVICES
PH 916-264-5427

SPECIALIZED SERVICES
PH 916-264-7200

June 2, 2000

Post-it® Fax Note	7671	Date	6/19/00	# of pages	22
To	JOE ROBINSON		From	STU WILLIAMS	

Winncrest Natomas LLC
2240 Douglas Blvd., Ste.200
Sacramento, CA 95822

Dear Mr. Winn:

On May 16, 2000, the Sacramento City Council authorized the execution of Resolution No.2000-239 approving Agreement No.2000-063 regarding Construction of Drainage Improvements, North Natomas Basin 8a.

Enclosed, for your records, is one fully certified copy of said resolution and agreement.

Sincerely,

Virginia K. Henry
Assistant City Clerk

jn Item 1.9

Enclosures

cc: Utilities (B. Busath)
Risk Management

RESOLUTION NO. 2000-239

ADOPTED BY THE SACRAMENTO CITY COUNCIL

ON DATE OF MAY 16 2000

A RESOLUTION ADOPTING THE FINDINGS RELATING TO THE ENVIRONMENTAL IMPACTS ASSOCIATED WITH APPROVAL THE NORTH NATOMAS DRAINAGE BASIN 8a DRAINAGE AGREEMENT, AND APPROVING THE DRAINAGE AGREEMENT

WHEREAS:

1. On May 20, 1997, the City Council adopted the North Natomas Comprehensive Drainage Plan, certified the adequacy of the Final Environmental Impact Report ("FEIR") prepared in connection with the Plan, adopted Findings of Fact and a Statement of Overriding Considerations, and approved a Mitigation Monitoring Plan; and
2. The drainage agreement for the North Natomas Basin 8a implements the Comprehensive Drainage Plan, by providing for the construction of the Basin 8a Common Drainage Facilities as identifies in the Basin 8a Drainage Master Plan; and
3. The Basin 8a Drainage Master Plan and the drainage agreement are consistent with the North Natomas Comprehensive Drainage Plan and provide complete drainage for properties located within this basin; and
4. All of the environmental impacts associated with this Master Plan and the drainage agreement, and the construction of the Common Facilities, were fully analyzed and considered in the FEIR; and
5. There are no changed circumstances which would require new or further environmental review; and
6. There is no need for further environmental review in order to approve the drainage agreement.

FOR CITY CLERK USE ONLY

CERTIFIED AS TRUE COPY

OF Res. 2000-239

DATE CERTIFIED 5-31-00

Marie A. Burrows
CITY CLERK, CITY OF SACRAMENTO

RESOLUTION NO.: 2000-239

DATE ADOPTED: MAY 16 2000

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO THAT:

1. The findings set forth above are true and correct.
2. Subject to the following conditions, the Basin 8a Drainage Agreement ("Agreement") is approved, and the City Manager is authorized to execute that agreement:
 - a. No Final Master Parcel Map, Subdivision Map, or other map shall be recorded on the land subject to the Agreement, unless and until the provisions of Section 7 of the Agreement, relating to posting of security, have been fully satisfied.
 - b. No person shall be permitted to occupy any structure located on the property subject to the Agreement unless and until the Landowner has formed a homeowner's association in accordance with the requirements of Section 2.B.(5) of the Agreement, and said association is in existence and in good standing.
 - c. No bonds shall be issued in City of Sacramento North Natomas - Westlake Community Facilities District No. 2000-01, unless and until the community facilities district or similar financing mechanism has been fully and completely formed and is in existence, pursuant to Section 2.B.(6) of the Agreement .
 - d. The Landowner shall execute and acquisition and shortfall agreement relating to City of Sacramento North Natomas - Westlake Community Facilities District No. 2000-01 prior to the approval of a Resolution of Formation relating to the said district.

JIMMIE R. YEE

MAYOR

ATTEST:

VALERIE BURROWES

CITY CLERK

FOR CITY CLERK USE ONLY

RESOLUTION NO.:

2000-239

DATE ADOPTED:

MAY 16 2000

CITY OF SACRAMENTO
CITY COUNCIL AGENDA ITEM - TRANSMITTAL FORM

Agenda Items are due in City Manager's Office by 3:00 PM Friday, 2 weeks (11 days) before the Council meeting

FROM

Department: Utilities
Contact Name / Phone #: Andy Hunt, x-1408
COUNCIL MEETING DATE: May 16, 2000

REVIEWED BY (initials)

- 1) Dept Fiscal Officer _____
2) Admin/Policy (Budget) _____
3) City Clerk _____

SUBJECT: ADOPT THE DRAINAGE AGREEMENT FOR THE CONSTRUCTION OF THE NORTH NATOMAS BASIN 8a
COMMON DRAINAGE FACILITIES

AGENDA PLACEMENT

Time Needed for Item? 0 minutes
(Factor-in council questions and discussions)
(Not applicable to Consent Items)
Controversial? ☒ No ☐ Yes... Why?

☒ **Afternoon Meeting**

☒ **Consent**

- ☐ Public Hearings
☐ Staff Reports

☐ **Evening Meeting (Controversial/Public Concern)**

- ☐ Special Presentations
☐ Public Hearing
☐ Staff Reports

☐ **Committee Agenda:**

- ☐ Law and Legislative
☐ P & PE
☐ Other _____

Votes Required for Passage:

- ☒ Majority
☐ 2/3
☐ Other _____

- ☐ **Graphics Display System Needed**
(arrange with City Clerk)

FORM COMPLETED BY:

Bill Busath 4/26/00 x1410

FISCAL IMPACT

- ☐ Budget Change? \$ _____
☐ Contract Approval? \$ _____
☐ Change Order? \$ _____
☐ Change in FTE? \$ _____
☐ Supplemental Agreement \$ _____

POLICY ISSUES

- ☐ MBE/WBE?
☐ Environmental?
☐ Legal?
☐ Other? _____

COMMENTS

SPECIAL INSTRUCTIONS TO CITY CLERK

This cover sheet must be completed and attached to your City Council Agenda Item



Department of Utilities
Engineering Services Division

CITY OF SACRAMENTO
CALIFORNIA

1395 35th Avenue
Sacramento, CA 95822-2911
phone (916) 264-1400
fax (916) 264-1497/1498

April 28, 2000

City Council
Sacramento, California

Honorable Members in Session:

**SUBJECT: ADOPTION OF A DRAINAGE AGREEMENT FOR THE CONSTRUCTION OF THE
NORTH NATOMAS BASIN 8a COMMON DRAINAGE FACILITIES**

LOCATION AND COUNCIL DISTRICT:

This drainage agreement includes all the North Natomas Basin 8a Common Drainage Facilities.
(See attached map). Basin 8a is in Council District 1

RECOMMENDATION:

Staff recommends that the City Council authorize the City Manager and City Clerk to execute a drainage agreement between the City of Sacramento and Lennar Communities, requiring Lennar Communities to design, finance, and construct all facilities required for drainage pursuant to the North Natomas Comprehensive Drainage Plan.

CONTACT PERSON: Gary A. Reents, Engineering Services Manager, 264-1433
Andrew A. Hunt, Senior Engineer, 264-1408

FOR COUNCIL MEETING OF: May 16, 2000



CITY OF SACRAMENTO
DEPARTMENT
OF UTILITIES

Making a Difference in Your Neighborhood

SUMMARY

In May 1994 the City Council approved the revised North Natomas Community Plan and certified the Supplemental EIR. In May 1997 the City Council approved the North Natomas Comprehensive Drainage Plan for North Natomas and certified the project EIR. On October 26, 1999, the City Council approved the Westborough Planned Unit Development (P98-112) and ratified a Negative Declaration for the project. The Drainage Master Plan for Basin 8a has been accepted by the Department of Utilities, and the Drainage Agreement has been signed by the land owner. Staff recommends the City Council adopt the Drainage Agreement.

BACKGROUND INFORMATION

Basin 8a, one of the watersheds identified in the North Natomas Comprehensive Plan, is located in the North Natomas area west of Interstate 5. The proposed project will drain approximately 331 acres and is bounded on the south by Del Paso Boulevard, on the east by El Centro Road, on the north by Interstate 5 and on the west by the Sacramento City Boundary. All runoff within the Basin 8a area will be collected in pipes and drain to the Westborough Lake/Detention Basin and then into the West Drain Canal. The Basin 8a Common Drainage Facilities covered by this drainage agreement include the following improvements:

- Outfall weir structure to limit outflow from the lake to 33 cfs during storm events;
- Lake / Water Quality / Detention Basin to provide water quality and storm water detention for extreme rainfall events;
- Drainage Pipes to serve The Westborough Development and the EC property.
- Drainage pass through for area to east and north

The North Natomas Comprehensive Drainage Plan identified the necessary drainage improvements required to remove the area within Basin 8a from the 100-year flood plain. The proposed Basin 8a improvements satisfy the requirements to meet this goal.

The Basin 8a common drainage improvements covered by this drainage agreement, will be designed, financed, and constructed by Lennar Communities. All improvements will be constructed in accordance with plans and specifications approved by the City Department of Utilities, and will be subject to normal inspection by the City.

The drainage agreement is to ensure the provision of storm water drainage for the basin and is a requirement (Mitigation Measure 2) of the Mitigation Monitoring Plan. The agreement covers design and construction of the common drainage facilities associated with the Westborough

City Council
April 28, 2000
Basin 8a Common Drainage Facilities

development, City review and inspection of the common drainage facilities, conveyance and dedication of the common drainage facilities to the City, and completion and acceptance of the common drainage facilities by the City. The drainage agreement also provides financial assurances that the drainage facilities will be completed.

FINANCIAL CONSIDERATIONS

Lennar Communities has agreed to pay all costs associated with the design and construction of the Basin 8a common drainage facilities covered in this drainage agreement. There is no cost to the City.

ENVIRONMENTAL DETERMINATION

The Planning Division has reviewed the project for compliance with the requirements of the California Environmental Quality Act (CEQA). The project is determined to fall within the scope of the North Natomas Comprehensive Drainage Plan Environmental Impact Report (EIR), adopted in May 1997 and the Negative Declaration (Negative Declaration) for the Westborough Project. The Westborough project has not changed appreciably since the environmental document was approved therefore no further environmental document is required. The Negative Declaration adequately describes the environmental effects of the proposed detention basin construction.

The Negative Declaration identified that the construction and operation of the detention basin will result in potentially significant impacts to wildlife, water quality and cultural resources. Mitigation measures to reduce these impacts to less than significant levels are specified in the Negative Declaration and are incorporated into the attached Mitigation Reporting Program for the construction of the detention basin. This analysis concludes that the proposed drainage agreement and construction of the detention of the basin will not result in new impacts or greater levels of impact than those identified in the Westborough Negative Declaration.

POLICY CONSIDERATIONS

The Drainage Agreement is consistent with the City Council's adoption of the North Natomas Comprehensive Drainage Plan and the goal of North Natomas Community Plan to promote development in North Natomas.

City Council
April 28, 2000
Basin 8a Common Drainage Facilities

ESBD CONSIDERATIONS

Not applicable since no goods or services are being purchased.

Respectfully submitted,

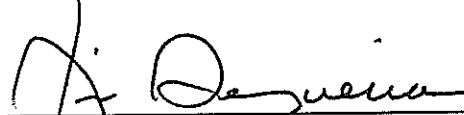


Gary A. Reents
Engineering Services Manager

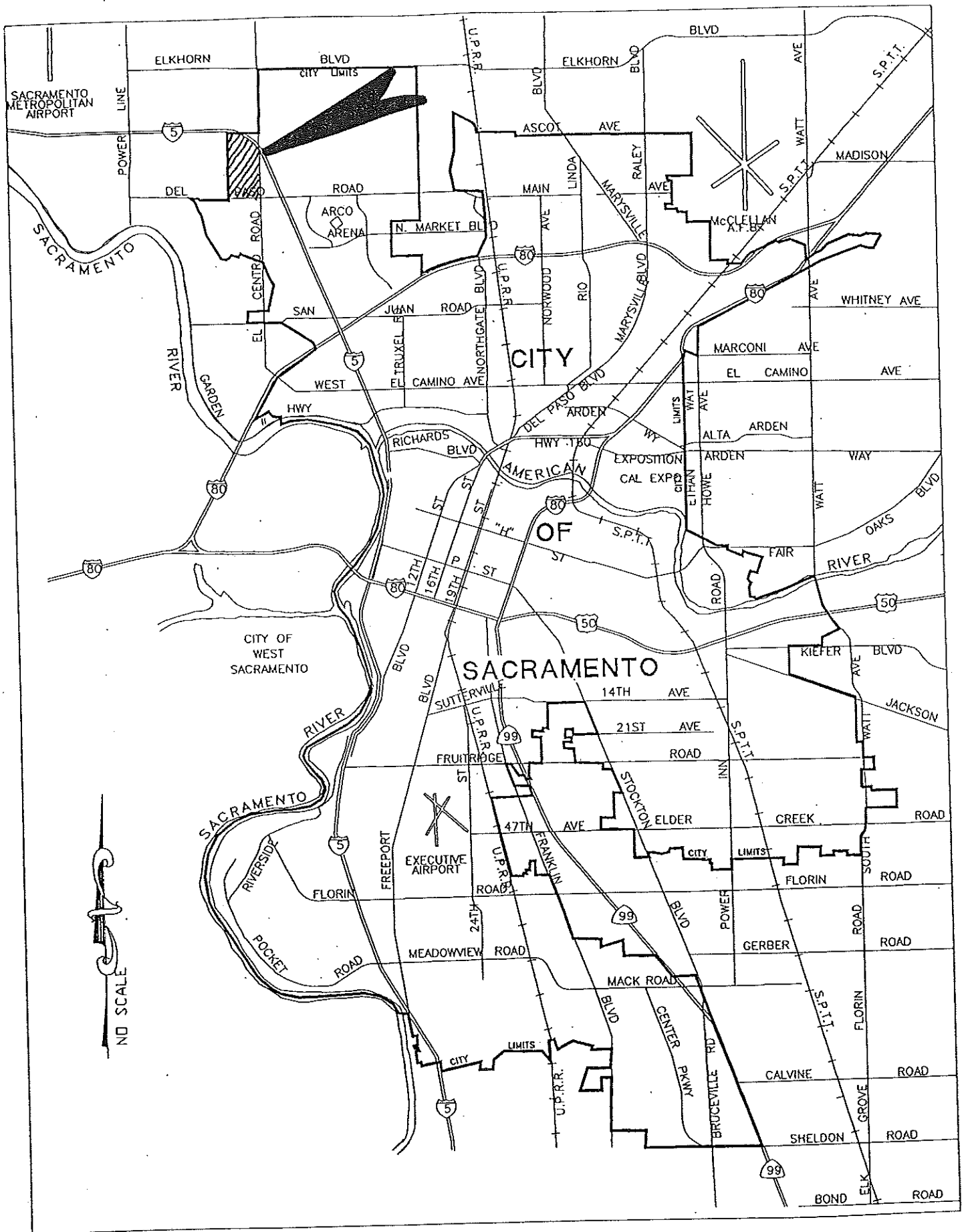
RECOMMENDATION APPROVED:

Robert P. Thomas
City Manager

APPROVED:



James G. Sequeira
Director of Utilities



VICINITY MAP

Fee Exempt Pursuant to
Government Code § 6103
Recorded for the Benefit of
the City of Sacramento

WHEN RECORDED, RETURN TO:

SPACE ABOVE THIS LINE FOR RECORDER'S USE ONLY

AGREEMENT FOR CONSTRUCTION OF DRAINAGE IMPROVEMENTS

THIS AGREEMENT, dated May 16, 2000, for purposes of identification, is made and entered into by and between the **CITY OF SACRAMENTO**, a charter city ("City"), and **WINNCREST NATOMAS LLC**, a Nevada limited liability company ("Landowner").

RECITALS

A. Landowner is the owner of property located in the City of Sacramento and identified as set forth in **Exhibit A**, attached hereto and incorporated herein by this reference (hereafter referred to as the "Landowner Property"). The Landowner Property is located within the area known and commonly referred to as "Drainage Basin 8A".

B. Landowner has received the following land use entitlements with respect to the Landowner Property from the City Planning Commission and/or the City Council ("Entitlements"):

Entitlement Issued

Tentative Master parcel map ("Tentative Master Parcel Map")
Tentative Subdivision Map ("Tentative Subdivision Map")
General Plan Amendment
Rezoning
P.U.D. Designation
Community Plan Amendment
Development Agreement

Date Issued

October 26, 1999
October 26, 1999
October 26, 1999
October 26, 1999
October 26, 1999
October 26, 1999
October 26, 1999

Resolution/Other No.

99-618
99-616
99-613
Ord. 99-055
99-615
99-614
Ord. 99-054

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C. The conditions of approval for said entitlements and the project mitigation measures include conditions and requirements relating to drainage of the Landowner Property which must be satisfied prior to issuance of any building permit and/or prior to issuance of a certificate of occupancy or other permit or document allowing occupancy of any structure as to which a building permit was issued. Those conditions and requirements require the preparation and execution of a drainage agreement ensuring satisfaction of such drainage conditions for Landowner's development project. The text of the conditions and mitigation measures relating to drainage are as set forth in **Exhibit B**, attached hereto and incorporated herein by this reference.

D. The conditions and mitigation requirements described in Recital C (collectively the "Drainage Conditions") require the owners of the Landowner Property to design, finance and construct, subject to prior City approval, all facilities required for drainage pursuant to the North Natomas Comprehensive Drainage Plan, Basin 8A.

E. Landowner, or its successors, is wholly responsible for providing interim and long-term permanent drainage facilities serving the Landowner Property.

F. A master drainage plan for Basin 8A (the "Basin 8A Master Drainage Plan") has been submitted to City for approval, and has received technical approval from the City's Department of Utilities. If and to the extent that the Basin 8A Master Drainage Plan must also be approved by the Department of Neighborhood Services due to any planned co-use of the Drainage Facilities or any portion thereof as a City park, such approval has been received.

G. Landowner has submitted to the City the following documents (collectively, the "Drainage Plans") related to the design and construction of the drainage facilities required for the Landowner Property: (i) a drainage master plan entitled North Natomas Drainage Basin 8A Drainage Analysis, dated October, 1998 and prepared by Morton & Pitalo, Inc.; (ii) Phasing Study dated February 18, 2000, prepared by the Spink Corporation (the "Phasing Plan"), which is attached hereto as **Exhibit C** and incorporated herein by this reference; and (iii) improvement plans for Basin 8A, including cost estimates. The City has not yet approved the Drainage Plans; however, City has agreed to allow processing of this Agreement pending such approval with the express understanding and agreement of Landowner that the Drainage Plans must be approved in writing by City prior to commencement of construction of the Drainage Facilities.

H. Landowner has also submitted to the City that certain proposed final master parcel map for the Landowner Property which is entitled "Westborough" and dated February, 2000 1998, prepared by The Spink Company (the "Final Master Parcel Map").

I. Landowner desires to enter into this Agreement in accordance with the Drainage Conditions so it can record the Final Master Parcel Map and proceed with development of the Landowner Property. Landowner is willing to construct the improvements (the "Drainage Facilities") shown on the Drainage Plans, entirely at

Landowner's expense, on the terms and conditions set forth herein. By constructing the Drainage Facilities, Landowner will have satisfied the Drainage Conditions insofar as they affect the Landowner Property. This is the Drainage Agreement required by the Drainage Conditions, and it implements rather than amends the Drainage Conditions.

J. Landowner has requested that City commence and complete proceedings for the establishment of a community facilities district to finance the design and acquisition from Landowner of the Drainage Facilities, and expenses incidental thereto. The terms and conditions upon which the City will form such a district, and upon which such a district will acquire the Drainage Facilities, will be set forth in a separate written agreement between the parties.

NOW, THEREFORE, on the basis of the facts set forth in Recitals A through J above, which the parties agree are accurate and are part of this Agreement, the parties hereby mutually agree as follows:

1. Design and Construction of Permanent Drainage Facilities.

A. Obligation to Construct. Subject to the terms and conditions specified herein and subject to the provisions of this Agreement relating to construction of phased and/or interim facilities, Landowner shall perform or cause to be performed, at Landowner's sole cost, all work necessary to construct the Drainage Facilities shown on the Drainage Plans, including without limitation the pipelines, pump stations, detention basins and other related improvements shown thereon.

(1) When constructed in accordance with the Drainage Plans, the Drainage Facilities will meet the Drainage Conditions, and all of the criteria set forth in the City of Sacramento's standard specifications issued by the Departments of Public Works and Utilities which were in effect at the time of final approval by City of the design of the Drainage Facilities, which standard specifications are specifically incorporated herein in full and made a part of this Agreement ("Standard Specifications").

(2) Where it is contemplated that City may form an acquisition district for the purpose of acquiring the Drainage Facilities, or some portion thereof, that portion of the Drainage Facilities which are to be acquired by said district shall be constructed as if they had been constructed as a city capital improvement project. In that regard, the construction procedures shall meet at least the following criteria, to the extent required by the applicable law governing the district and applicable city policies and procedures:

(a) Landowner shall require all contractors and subcontractors performing work on the Drainage Facilities to be acquired to pay prevailing wages, and Landowner shall employ competitive bidding procedures in accordance with applicable City policies and procedures; and

(b) All construction contracts relating to the Drainage

CITY AGREEMENT NO. 2000-063

Facilities to be acquired shall provide that the progress and final payments called for therein shall be made only after the City has inspected the Drainage Facilities to be acquired and has approved the extent to which such improvements have been completed in relationship to the payments(s) being made.

B. Location of Drainage Facilities. The pipelines, pump stations, detention basins and related improvements constituting the Drainage Facilities shall be located as shown on the map attached hereto as **Exhibit D** and fully incorporated hereby by this reference, unless different locations are approved by City.

C. Costs. All design costs, engineering costs, and costs of plans and specifications, together with the entire cost of construction and any and all costs incurred to acquire any property rights necessary to construct the Drainage Facilities, shall be borne one hundred percent (100%) by Landowner.

2. Review and Inspection.

A. Plan Approval. The City has not yet approved the Drainage Plans; however, City has agreed to allow processing of this Agreement pending such approval with the express understanding and agreement of Landowner that the Drainage Plans must be approved in writing by City prior to commencement of construction of the Drainage Facilities.

B. Site Superintendent: City Project Manager. Landowner shall provide a site construction superintendent ("Site Superintendent") who will be on-site whenever work is being performed on the Drainage Facilities. The City shall provide a City project manager ("City Project Manager") who will be Landowner's point of contact with the City with respect to such construction, who will be on-site as necessary, and who will generally be available by telephone or otherwise at all reasonable times.

(1) The Site Superintendent shall have complete authority over the construction contractors and all subcontractors, with authority to order stoppage of work and minor changes to the work in order to comply with the Drainage Plans. The Site Superintendent may also, but need not have authority to order minor design changes to meet unanticipated field conditions, provided that the same are consistent with the Drainage Plans.

(2) The City Project Manager shall have complete authority over the City's construction inspectors, with authority to determine whether or not the work complies with the Drainage Plans. The City Project Manager may also, but need not have authority to approve minor design changes to meet unanticipated field conditions, provided that the same are consistent with the Drainage Plans.

(3) Les Hock is designated by Landowner as the Site Superintendent, until Landowner notifies the City Department of Utilities of his replacement. Bill Busath is designated by City as the City Project Manager, until City notifies Landowner

of his replacement.

C. Construction and Inspection. Landowner shall construct the Drainage Facilities in accordance with the Drainage Plans and any changes or revisions thereto approved by City. City shall be allowed to enter the Landowner Property to perform construction inspection whenever deemed necessary by City, provided that City Project Manager shall notify Landowner's Site Superintendent of any entry to and departure from the construction site by City inspectors when an inspection occurs during the normal working hours.

(1) Should a City inspector (the "Inspector") find any non-conformance or noncompliance with the Drainage Plans, the Inspector shall notify the City Project Manager and the Site Superintendent of such nonconformance or noncompliance, and the City Project Manager and the Site Superintendent shall jointly determine the nature of the corrective action to be taken. Corrective action taken pursuant to the agreement between the City Project Manager and the Site Superintendent shall be deemed to be in accordance with the Drainage Plans.

(2) If the City Project Manager and the Site Superintendent are unable to agree upon the corrective action to be taken, the City Project Manager may order that work on the nonconforming or noncomplying item(s) or area(s) be stopped. If the City Project Manager orders work to stop: (a) Landowner shall comply with all requirements of any stop work order and must obtain City's approval before work can resume on that item(s) or in that area(s); and (b) the City Project Manager, the Site Superintendent and such other representatives of City and Landowner as are necessary or appropriate to evaluate, discuss and resolve the situation, shall promptly meet and confer regarding the measures necessary to correct the nonconforming or noncomplying items(s) or area(s).

(3) Landowner, at its expense, shall make normal construction design review and support services available to City during the course of construction. The City's inspection fees shall include an amount necessary to compensate City for the services provided by the City Project Manager pursuant to this Agreement.

(4) Landowner intends to convey to City fee title to the property covered by the lake which will serve as both a detention basin, and a recreational amenity for Landowner's residential development. Such conveyance is subject to all of the terms and conditions of this Section 3. Additionally, Landowner will reserve to itself an easement for recreational and related uses. City shall have the right to approve the form of the reserved easement. In determining the value of the lake property for purposes of reimbursement (if applicable) through Community Facilities District #00-01, or such other mechanism as is selected in City's sole and exclusive discretion, the said easement shall be taken into account in the deliberations of the independent appraiser commissioned by City to appraise the lake property.

(5) Landowner and City have agreed upon the terms and

CITY AGREEMENT NO. **2000-063**

conditions of a Lake Management Plan ("Plan") for the lake/detention basin, which Plan *inter alia* specifies the parties' responsibilities and obligations relative to maintenance of the lake/detention basin and all of its facilities. Landowner shall undertake all required procedures to form a homeowners' association which will, in addition to its other duties, be fully responsible for satisfying Landowner's maintenance obligations under the Plan. No person shall be allowed to occupy any residence within the Property unless and until the homeowners' association has been fully formed and is in existence in good standing. The Lake Management Plan is attached hereto, marked **Exhibit H**, and is incorporated herein by this reference.

(6) It is City's intention to form, at Landowner's expense, an additional Community Facilities District or other similar comparable financing mechanism ("District") for the purpose of providing contingency funding for fulfillment of Landowner's and the homeowners' association's maintenance obligations under the Plan, in the event that there is a default in performance of such obligations. The District will provide for a zero tax, which in City's discretion may be escalated to a specified maximum tax in case of such a default. Landowner, for itself and its assigns, agrees to the formation of the District, and to execute all waivers and other documents required by City in connection with formation of the District, and to vote affirmatively on the issues of formation and the establishment of the tax rate and method of apportionment, which will be determined by an independent consultant selected by City, as well as the tax levy. The parties agree that no bonds will be issued in CFD #00-01 for purposes of reimbursement of Landowner's costs in constructing the Drainage Facilities, unless and until the District is formed and all proceedings have been finally approved for levy of the tax. City will diligently proceed with formation of the District.

(7) The parties further agree that a formal acquisition and shortfall agreement relating to CFD #00-01 shall be entered into prior to adopting a Resolution of Formation with respect to the District, in a form approved by the City Attorney, to be executed by Landowner and City.

D. Weekly Meetings. During the construction of the Drainage Facilities, appropriate representatives of each party shall meet on a weekly basis as needed to coordinate activities and keep all parties advised as to the status of the Drainage Facilities project.

3. Conveyance of Drainage Facilities, Dedication of Easements, As-Builts, Warranties.

A. Compliance with Standard Specifications; Warranty of Work. Except as otherwise specified herein, all matters relating to notices of completion, inspections for completion, correction of deficiencies, notices of correction of deficiencies, final inspections, testing, final approvals, conveyance of facilities to City, City acceptance of the Drainage Facilities, as-built construction specifications, drawings, plans and submittals, maintenance and repairs pending final acceptance by City, assignment of third-party warranties to City, and Landowner's warranty of the Drainage Facilities, shall be conducted and determined in accordance with City's Standard Specifications. With respect to warranties of work, the Standard Specifications generally require a one-year warranty dating from the date of acceptance of the work by City.

B. Conveyance of Drainage Facilities. Prior to, and as a condition precedent to acceptance by City of the completed Drainage Facilities, Landowner shall also irrevocably dedicate to City, at no cost to City, legal title to all of the completed Drainage Facilities including without limitation any and all easements on, over, under and across Landowner Property which are necessary for City to own, operate, gain access to, and maintain and repair all or any portion of the Drainage Facilities, except for the detention basin site, which detention basin site shall be irrevocably dedicated to City in fee, at no cost to City. Where the project requires acquisition of interests in real property on land other than the Landowner Property, Landowner shall acquire at Landowner's sole cost and expense all such interests and convey such interests to City in accordance with the provisions of this section. In the event that Landowner is unable to acquire such interests from the owners thereof after using reasonable business efforts in good faith, City agrees, to the extent permitted by law, to employ its legal authority to acquire such interests; provided, however, that Landowner shall be required to pay to City all costs of acquisition, including but not limited to attorney fees (whether for the City Attorney or City-selected outside counsel), court costs, appraisal costs, city staff costs, and other costs related to the acquisition procedures. City shall provide to Landowner an initial estimate of such costs, which Landowner shall pay within ten (10) days of notice by City of the cost estimate. In the event that actual costs exceed the estimate, City shall bill Landowner for the excess thereof on a quarterly basis, and Landowner shall pay any such billing within ten (10) days from receipt thereof. In the event that the costs are less than the estimate, City shall refund to Landowner the excess deposited with City within ten (10) days from the date on which the acquisition is completed. In the process of acquisition, City will use its best efforts to obtain rights to enter and construct the Drainage Facilities so as to expedite the construction schedule.

(1) The easements and detention basin site shall be conveyed to City subject only to "Permitted Encumbrances," as hereinafter defined. Landowner agrees and covenants to take any and all actions necessary to remove any and all encumbrances which do not constitute Permitted Encumbrances, prior to conveying the easements and detention basin to City.

(2) As used in this Agreement, the term "Permitted Encumbrances" means: (a) nondelinquent assessments or taxes for bonds issued by City or its nominee; (b) nondelinquent assessments by RD-1000; (c) nonexclusive easements for public facilities or utilities which do not interfere with or limit the rights to be conveyed to City hereunder, including easements for highways, streets, roads, ditches, canals, levees, sewer facilities, electrical facilities, gas facilities, telephone facilities and drainage facilities; (d) any improvement agreement, development agreement, reimbursement and warranty agreement, indemnification agreement, mitigation agreement, or agreement to participate in North Natomas Financing Plan, between any owner of the Landowner Property and City; and (e) such other encumbrances as the City may approve in writing.

(3) Notwithstanding their "Permitted Encumbrances" status, the City shall not be responsible for the payment of any tax or assessment, or fee or charge levied against the easements and detention basin (collectively, the "Flood Improvement Taxes and Assessments") by virtue of the City's acquisition thereof pursuant hereto, including but not limited to, the following: direct levy assessments of the Sacramento Area Flood Control Agency for the construction of presently existing flood control improvements benefitting the Landowner Property; and, special taxes under the presently existing Community Facilities District formed to fund the construction of additional flood control improvements benefitting the Landowner Property.

(a) Landowner shall pay all then-current installments of the Flood Improvement Taxes and Assessments at the time of conveyance, and Landowner or its successors in interest shall remain responsible for the payment of the future installments of the Flood Improvement Taxes and Assessments levied against the property affected by the City easements described in this Agreement.

(b) The City, upon the direction and express consent of Landowner, which are hereby given, shall use its best efforts to cause the Flood Improvement Taxes and Assessments affecting the detention basin to be reallocated in accordance with applicable law and the provisions of the relevant district. With respect to the components of the Flood Improvement Taxes and Assessments which originate from a district formed by City, City upon complete and proper application made by Landowner (including applicable fees), agrees to cause such reallocation to be completed, to the extent allowable by law and in accordance with the provisions of the relevant district. As to districts not formed by City, or as to City-formed districts where reallocation cannot be completed in accordance with applicable law and/or the provisions of the relevant district, if despite the City's best efforts, Flood Improvement Taxes and Assessments remain against the detention basin, Landowner and the City shall implement a reasonable alternative to assure that the City has no responsibility for the payment of the future installments of such Flood Improvement Taxes and Assessments.

4. Completion of Drainage Facilities; Interim Facilities; Home Construction; Satisfaction of Drainage Conditions.

A. Phasing of Facilities. Landowner may elect to install the Drainage Facilities in the phases described in **Exhibit C** (the "Phasing Plan") and has agreed to post security applicable to such phases in accordance with Section 7 below. The City has approved the Phasing Plan and the security described in Section 7. In the event that Landowner desires to modify the Phasing Plan, then the Drainage Facilities to be included within each modified phase, their location, the area to be served thereby, the timing for completion of such modified phases and the posting of any applicable security in accordance with Section 7 below shall be subject to the review and approval of the Director of the Department of Utilities, in the Director's absolute and sole discretion.

B. Interim Drainage Facilities. Landowner shall have the right, subject to the same City review and approval provisions as are set forth in subsection A above, to provide interim drainage facilities to serve the initial development of the Landowner Property until such time as the Drainage Facilities are completed and conveyed to City as provided herein. Such interim facilities may (by way of example) include temporary pumps to serve the initial development of the Landowner Property until permanent pumps are required hereunder in City's judgment. Provided that, if and when development of the Landowner Property reaches the level where the installation of the Drainage Facilities, or applicable portion thereof, is required, then City may require the completion of such Facilities, or portion thereof, as a condition to any further development of the Landowner Property. Nothing in this Agreement or in any other agreement between the parties, and no action on the part of City, its officers, employees or agents in approving such interim facilities shall be construed to create a waiver of any requirement that the Drainage Facilities be fully and completely installed by Landowner.

C. Building Permits and Certificates of Occupancy. The portions of the Drainage Conditions which limit the availability of building permits and the occupancy of structures may also be satisfied on a phase-by-phase basis, in accordance with this Section 4.C.

(1) Commencement of construction of the Drainage Facilities within a phase, as described in the Phasing Plan, shall entitle Landowner to obtain building permits for the maximum number of residences and other structures permitted within the building area ("Building Area") served by that phase of the Drainage Facilities, as such Building Area is also shown on the Phasing Plan. So long as Landowner is not in default under this Agreement, once the Drainage Facilities within a phase have been commenced, City shall not refuse or delay, on the basis of the Drainage Conditions, to issue building permits within the applicable Building Area or to inspect any residence or other structure for which a building permit has been issued.

(2) Once Landowner has completed construction of the Drainage Facilities in a phase, City shall not, on the basis of the Drainage Conditions, including

without limitation, any failure to construct subsequent phases of the Drainage Facilities, refuse or delay the issuance of a certificate of occupancy for any residence or other structure for which a building permit has been issued or to otherwise allow the occupancy of any such structure, from and after the date Landowner has completed construction of such phase of the Drainage Facilities, as evidenced by the City of Sacramento Department of Utilities' final inspection and approval, or such earlier date as approved by the Department of Utilities, in its discretion. City agrees to act in a timely fashion in providing final inspection and approval. Upon notice from Landowner that the Drainage Facilities are complete, City agrees to provide the final inspections and a punch list of corrections within thirty (30) days of receipt by City of such notice.

(3) In the event the Phasing Plan is modified in accordance with Section 4.A, then the foregoing provisions shall apply with respect to the revised Building Area(s) as shown on the revised Phasing Plan.

D. Satisfaction of Drainage Conditions. When Landowner has completed construction of the Drainage Facilities in accordance with this Agreement and City has accepted the Drainage Facilities, the Drainage Conditions will be deemed satisfied for all purposes with respect to the Landowner Property. For purpose of this Agreement, City acceptance means final completion in accordance with the Drainage Plans of the Drainage Facilities or phase thereof, which has been finally inspected and approved by the City for acceptance into its drainage system.

5. Hazardous Substances.

A. No Review, Examination or Assessment. The parties acknowledge and understand that City has not conducted any review, examination or assessment to assess, identify or detect the presence of any Hazardous Substances, as defined below, on, under or around Landowner Property. As between the City and Landowner, any liability associated with the presence of any Hazardous Substances on, under or around the Landowner Property, including any interests in said property dedicated to City as provided herein, shall be governed by the provisions of Section 6 below, regardless of whether any such review, examination or assessment is conducted.

B. Definitions.

(1) As used herein, the term "Hazardous Substances" means:

(a) Those substances included within the definitions of hazardous substance, hazardous waste, hazardous material, toxic substance, solid waste, or pollutant or contaminant under any Environmental Law, as defined below;

(b) Those substances listed in the United States Department of Transportation Table [49 CFR 172.101], or by the Environmental Protection Agency, or any successor

CITY AGREEMENT NO. 2000-063

agency, as hazardous substances [40 CFD Part 302];

(c) Other substances, materials, and wastes that are or become regulated or classified as hazardous or toxic under federal, state or local laws or regulations; and

(d) Any material, waste, or substance that is

- i) a petroleum or refined petroleum product,
- ii) asbestos,
- iii) polychlorinated biphenyl,
- iv) designated as a hazardous substance pursuant to 33 USCS §1321 or listed pursuant to 33 USCS §1317,
- v) a flammable explosive, or
- vi) a radioactive material.

(2) As used herein, the term "Environmental Law" means all federal, state, local or municipal laws, rules, orders, regulations, statutes, ordinances, codes, decrees or requirements of any government authority regulating, relating to, or imposing liability or standards of conduct concerning any Hazardous Substance, or pertaining to environmental conditions on, under, or about the detention basin site or any of the easement areas which Landowner is required to and does convey to City pursuant to this Agreement, as now or may at any later time be in effect, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) [42 USCS §§ 9601 *et seq.*]; the Resource Conservation and Recovery Act of 1976 (RCRA) [42 USCS §§ 6901 *et seq.*]; the Clean Water Act, also known as the Federal Water Pollution Control Act (FWPCA) [33 USCS §§ 1251 *et seq.*]; the Toxic Substances Control Act (TSCA) [15 USCS §§ 2601 *et seq.*]; the Hazardous Materials Transportation Act (HMTA) [49 USCS §§ 1801 *et seq.*]; the Insecticide, Fungicide, Rodenticide Act (7 USCS §§ 136 *et seq.*); the Superfund Amendments and Reauthorization Act [42 USCS §§ 6901 *et seq.*]; the Clean Air Act [42 USCS §§ 7401 *et seq.*]; the Safe Drinking Water Act [42 USCS §§ 300f *et seq.*]; the Solid Waste Disposal Act [42 USCS §§ 6901 *et seq.*]; the Surface Mining Control and Reclamation Act [30 USCS §§ 1201 *et seq.*]; the Emergency Planning and Community Right to Know Act [42 USCS §§ 11001 *et seq.*]; the Occupational Safety and Health Act [29 USCS §§ 655 and 657]; the California Underground Storage of Hazardous Substances Act [Health and Safety Code §§ 25280 *et seq.*]; the California Hazardous Substances Account Act [Health and Safety Code §§ 25100 *et seq.*]; the California Safe Drinking Water and Toxic Enforcement Act [Health and Safety Code §§ 24249.5 *et seq.*]; the Porter-Cologne Water Quality Act [Water Code §§ 13000 *et seq.*], together with any amendments of or regulations promulgated under the statutes cited above, and any other federal, state or local law, statute, ordinance or regulation now in effect or later enacted that pertains to the regulation or protection of the environment, including ambient air, soil, soil vapor, groundwater, surface water, or land use.

6. Indemnification; Waiver and Release.

A. Indemnification by Landowner. Subject to the provisions of this Section 6, Landowner agrees and covenants to, and shall fully indemnify, defend and hold harmless City and its elective and appointive boards, commissions, officers, employees and agents, from and against any and all liabilities, penalties, losses, damages, costs, expenses (including reasonable attorneys' fees, whether for outside counsel or the City Attorney), causes of action, claims, or judgments (collectively, "Claims") arising by reason of any death, bodily injury, personal injury, property damage or violation of any law or regulation to the extent arising from any actions or omissions in connection with the design, construction, operation, maintenance or repair of the Drainage Facilities by any of the following: Landowner, any of Landowner's engineers, contractors or subcontractors, or any other person or entity employed by or acting on behalf of or as the authorized agent for Landowner, or any of Landowner's engineers, contractors or subcontractors. Provided, however, that Landowner shall not be liable hereunder to indemnify, defend or hold harmless City and its elective and appointive boards, commissions, officers, employees and agents against Claims alleging sole and active negligence of City in its functions of design review, approval or construction inspection in connection with the Drainage Facilities; provided further, that nothing in this Agreement shall be construed as a waiver by City of any immunity or defense it may have relating to any such Claim, including without limitation immunity or defenses relating to design review and/or approval and/or construction inspection.

B. Indemnification Regarding Hazardous Substances. Landowner further agrees and covenants to, and shall fully indemnify, defend and hold harmless City, and its elective and appointive boards, commissions, officers, employees and agents, from and against any and all Claims arising by reason of any death, bodily injury, personal injury, property damage or damage to the environment to the extent arising from any use, storage, treatment, transportation, release or disposal, on, about or around the portion of the Landowner Property on which the detention basin or any of the Drainage Facilities or the easements which are required to be or which are transferred to City shall be located, of any Hazardous Substances, as defined above, by any person or entity (except persons or entities acting on City's behalf or under City's control), occurring on or at any time prior to the date the detention basin site, the Drainage Facilities, and the said easements are conveyed to City as provided in this Agreement. The foregoing indemnification obligation shall not apply to the incorporation of building materials as part of the Drainage Facilities, provided such incorporation is performed in accordance with applicable laws and is not in violation of Environmental Laws in effect at the time of such incorporation.

C. Duration of Indemnification Obligations. The indemnification and hold harmless agreement made by Landowner in Section 6.A above, with respect to the Drainage Facilities, or each part thereof constructed by Landowner, shall expire on a phase-by-phase basis. Such indemnification and hold harmless agreement shall expire with respect to a phase on the date which is one year after the completion of such phase of the Drainage Facilities and acceptance thereof by City (hereafter the "Expiration Date"), provided that Section 6.A above shall not expire and shall remain in effect with respect to

any Claims which are made, initiated, claimed, filed or assessed at any time prior to the Expiration Date, or which relate to (directly or indirectly) any such Claims. The indemnification and hold harmless agreement made by Landowner in Section 6.B above shall survive the termination of this Agreement with respect to a phase until the date which is two years after the completion of such phase and acceptance thereof by City. Section 6.B above shall not expire, however, and shall remain in effect with respect to any Claims which are made, initiated, claimed, filed or assessed at any time prior to such date, or which relate to (directly or indirectly) any such Claims. The provisions of this Section 6.C shall apply only with respect to the indemnification and hold harmless provisions of this Agreement, and shall not affect the liability, if any, which Landowner might have under applicable law to the extent Landowner is a contaminator of the Landowner Property.

D. Additional Provisions Regarding Indemnification Obligations. The parties further agree and understand as follows: (1) City does not, and shall not be deemed to, waive any rights against Landowner which it may have by reason of the aforesaid indemnity and hold harmless agreements because of any insurance coverage provided pursuant to Section 8 below; (2) except as may otherwise be specifically and expressly provided in subsection 6.A. above relating to Claims based upon allegations of sole and active negligence on the part of City, the aforesaid indemnity and hold harmless agreements shall not be limited or waived in any way based upon the fact that City has or shall have prepared, supplied, or approved of plans and/or specifications for the Drainage Facilities, or has or shall have inspected or failed to inspect construction of the Drainage Facilities; (3) the scope of the aforesaid indemnity and hold harmless agreements is to be construed broadly and liberally to provide the maximum coverage for City in accordance with their terms; (4) no specific term or word contained in this section shall be construed as a limitation on the scope of the indemnification and defense rights and obligations of the parties unless specifically so provided; and (5) Landowner shall cause all engineering and construction contracts relating to the Drainage Facilities to require the engineer or contractor to fully and without limitation indemnify, defend and hold harmless City and its elective and appointive boards, commissions, officers, employees and agents, from and against any and all Claims arising by reason of any death, bodily injury, personal injury, property damage or violation of any law or regulation to the extent arising from any actions or omissions of such professional in connection with the design, construction, maintenance, operation or repair of the Drainage Facilities by said engineer or contractor, or any other person or entity employed by or acting as the authorized agent for said engineer or contractor, but only to the extent that such professional or other party has contractual responsibility for a portion or aspect of the Drainage Facilities. For example, a contractor responsible for constructing a portion of the Drainage Facilities would not be held responsible for the design, nor would an engineer who designed a portion of the Drainage Facilities be held responsible for construction not in accordance with the design. So long as the construction contract contains the language contained in **Exhibit E**, attached hereto and incorporated herein by this reference, or other language approved in writing by the City, and if City is satisfied in its judgment with the adequacy of the engineer's or contractor's insurance, Landowner shall be deemed to have satisfied its obligation under subsection 6.D(5) to obtain for the City indemnification and defense

obligations on the part of Landowner's engineers and contractors.

E. Waiver by Landowner. In addition to Landowner's obligations to indemnify, hold harmless and defend City as set forth above, Landowner, its assigns, transferees and successors, hereby waives and releases any and all claims of whatever sort or nature which may arise against City or its officers, employees and agents, in connection with the design or construction of the Drainage Facilities.

F. Unknown Claims. This waiver and release shall include any and all claims arising under Section 1542 of the California Civil Code, which provides that:

"A general release does not extend to claims which a creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

Thus, notwithstanding the provisions of Section 1542, and for the purpose of implementing a full and complete release, the parties hereto expressly acknowledge that this Agreement is intended to release and extinguish, without limitation, all claims as described in this Section 6 which the parties do not know or suspect to exist. The provisions of this Section 6 shall survive termination of this Agreement.

G. Indemnification by City. City further agrees and covenants to, and shall fully indemnify, defend and hold harmless Landowner, and its elective and appointive boards, commissions, officers, employees and agents, from and against any and all Claims arising by reason of any death, bodily injury, personal injury, property damage or damage to the environment (i) to the extent arising from any City use, storage, treatment, transportation, release or disposal, on, about or around the portion of the Landowner Property on which the detention basin or any of the Drainage Facilities or the easements which are required to be or which are transferred to City shall be located, of any Hazardous Substances, as defined above, by any person or entity (except persons or entities acting on Landowner's behalf or under Landowner's control), occurring on or at any time after the date the detention basin site, the Drainage Facilities, and the said easements are conveyed to City as provided in this Agreement; (ii) arising from any act (including but not limited to those covered by subsection (i) immediately above) on the part of City or its agents or employees in the use and operation of the Drainage Facilities; or (iii) occurring on or at any time arising from any entry upon the Landowner Property by City, its agents, employees or contractors, pursuant to the provisions of section 2 of this Agreement.

7. Security.

A. Security for Drainage Facilities. Prior to approval of a final parcel map, or a final subdivision map, for any portion of the Landowner Property, Landowner shall post with City the security required by this Section 7.A in order to secure performance of all of Landowner's obligations hereunder with respect to the Drainage Facilities. In all cases the security shall be in the form of a standby letter of credit, acceptable in form to

the City Attorney. In City's sole and absolute discretion, City may approve an alternate form of security proposed by Landowner.

(1) Landowner shall post with the City the following security (the "Initial Drainage Security") in connection with the City's approval of the final Master Parcel Map, which affects the entire Landowner Property: a standby letter of credit in an amount equal to the total cost of construction of the Drainage Facilities, as shown on the Engineer's Cost Estimate, attached hereto as **Exhibit F**, and incorporated herein by this reference.

(2) The Initial Drainage Security shall be reduced and/or replaced, from time to time, in connection with the commencement of construction of Drainage Facilities shown on improvement plans approved by the City. As and when City approves the improvement plans ("Approved Plans") for all or any portion of the Drainage Facilities and authorizes the commencement of construction of the Drainage Facilities ("Approved Facilities") shown on the Approved Plans, Landowner shall replace the Initial Drainage Security with respect to the Approved Facilities with a Labor and Material Bond and Performance Bond or alternate security as may be approved by the City (the "Construction Security") in the amount customarily required by the City in connection with subdivision improvements, based upon the estimated cost of completing the Approved Facilities. Once Landowner has furnished the City with the Construction Security, the Initial Drainage Security shall be reduced and released by the City with respect to those amounts secured by the Construction Security. If the Drainage Facilities are completed before the entire Initial Drainage Security has been released, the then-remaining Initial Drainage Security shall be released when Landowner furnishes the security required by Section 7.B.

B. Security for Warranty. To secure the terms of the warranties set forth in Section 3.A above, Landowner shall provide warranty security in a form acceptable to City in the amount of ten percent (10%) of the full cost to construct the applicable Drainage Facilities. The warranty security for the Drainage Facilities shall be the warranty security furnished in connection with the subdivision to which such facilities are attributed. Warranty security shall be provided at the time that each portion of the Drainage Facilities are conveyed to City as set forth herein, and shall remain effective throughout any applicable guarantee period. Prior to City making any temporary or permanent repairs or replacements during the warranty period, City shall provide Landowner with detailed information concerning the warranty work that needs to be completed, including the estimated cost of the work and the reasons that the City believes the work is required. City and Landowner shall meet and confer regarding such warranty work and Landowner shall be given a reasonable opportunity to perform such warranty work within a time frame and on conditions which are reasonable under the circumstances. If City makes or causes to be made any temporary or permanent repairs or replacements during such warranty period, Landowner shall be assessed, in addition to actual costs and expenses of such repair or work, fifteen percent (15%) of such costs and expenses for overhead. The assessment of costs, expenses and overhead shall first be drawn from Landowner's warranty security. If the amount exceeds the balance of the warranty security, Landowner will be required to pay for the additional costs incurred within thirty (30) days after City requests payment of the additional amount.

8. Insurance. Landowner shall obtain and deliver to City, at no cost to City, certificates of insurance which indicate that City, its elective and appointive boards, commissions, officers, agents and employees are covered as additional insureds under all insurance policies maintained for design and/or construction of the Drainage Facilities (1) by Landowner, or (2) by any engineer, contractor or subcontractor directly or indirectly employed by Landowner to perform any work related to the Drainage Facilities, with respect to any and all liability resulting from or in any way arising out of any actions or omissions by Landowner or any engineer, contractor or subcontractor directly or indirectly employed by Landowner in connection with the design, construction, operation, maintenance or repair of the Drainage Facilities. The aforesaid policies shall also provide that no cancellation, major change in coverage, or expiration may be affected by the insurance company or the insured during the term of this Agreement, without first giving to City thirty (30) days' written notice prior to the effective date of such cancellation or change in coverage. Landowner shall not permit any contractor or subcontractor to commence or continue work on the Drainage Facilities until the aforesaid certificates have been approved by the City's Division of Risk Management.

9. Binding on Successors. Subject to the provisions of section 14 of this Agreement, this Agreement shall be binding on and shall inure to the benefit of City and Landowner and their respective principals, heirs, executors, administrators, devisees, legal representatives, successors, assigns, affiliates, parent and subsidiary corporations, and their past, present and future shareholders, directors, officials, employees and agents. The parties agree that Landowner's agreements and covenants contained herein are covenants which run with the Landowner Property, in accordance with Section 1468 of the Civil Code. The burden of said covenants shall be binding upon Landowner's constituents, successors, transferees and assigns, for the benefit of the Landowner Property to be served by the Drainage Facilities.

10. Landowner's Representations. Landowner certifies that it owns full legal title to the Landowner Property. Each individual executing this Agreement on behalf of a corporation, joint venture, partnership or other business represents and warrants that he or she has been authorized to do so by the entity on whose behalf he or she executes this Agreement and that said entity will thereby be obligated to perform the terms of this Agreement.

11. Consultation With Attorneys. Each party to this Agreement expressly states and represents that he/she/it have consulted with their respective attorneys concerning all portions of this Agreement and have been fully advised by said attorneys with respect to their rights and obligations hereunder. After said consultation and advice, each party voluntarily enters into this Agreement.

12. Recording. The parties agree that any party may record this Agreement in the office of the Recorder of Sacramento County. Upon request of Landowner, and if Landowner is not then in default under this Agreement, City agrees to execute such documents as are required to remove this Agreement from the title to a residential lot within the Landowner Property at the time of closing to a residential purchaser. City shall also,

upon request of Landowner, take such action to remove this Agreement from title upon City acceptance of a phase of the Drainage Facilities, as to any of Landowner's land as to which building permits were or could have been issued for said phase.

13. Notices. All notices herein required, unless otherwise specified, shall be in writing, and shall be delivered in person or sent by first class mail, postage prepaid.

To City:

Department of Utilities
City of Sacramento
5770 Freeport Boulevard
Sacramento, CA 95822
Attn: Bill Busath

To Landowner:

Mr. Thomas P. Winn
Winncrest Natomas LLC
2240 Douglas Blvd., Suite 200
Roseville, CA 95661

Any party may change its address by notice in writing to the other parties and thereafter notices shall be addressed and transmitted to the new address.

14. Assignment. This Agreement may not be assigned without the mutual written consent of all parties, and any attempt to assign this Agreement without such consent shall be void.

15. Amendment. This Agreement may only be amended in a writing signed by all parties.

16. Attorneys' Fees and Costs. Any party may bring a suit or proceeding to enforce or require performance of the terms of this Agreement, and the prevailing party in such suit or proceeding shall be entitled to recover from the other parties reasonable costs and expenses, including attorneys' fees, including outside counsel (and, in the case of City, the City Attorney).

17. Term of Agreement. This Agreement shall become effective as of the date first written above, and, subject to the provisions of Section 6 above, shall terminate one (1) year after the completion of all the Drainage Facilities and acceptance thereof by City.

18. No Agency. Neither Landowner nor any of Landowner's agents, engineers, contractors or subcontractors are or shall be considered to be agents of City in connection with the performance of any of Landowner's obligations under this

CITY AGREEMENT NO. **2000-063**
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03/30/00

Agreement.

19. Other Agreements. This Agreement is not intended to, and shall not, cancel, supersede, modify or otherwise affect any other agreements which have been or may be made or any approvals or permits which have been issued between or by any party regarding the subject matter hereof, including but not limited to development agreements, subdivider agreements, and improvement agreements.

20. Habitat Conservation Fees. Landowner shall pay all applicable Habitat Conservation Fees with regard to construction of the Drainage Facilities, subject to Landowner's right to reimbursement of such fees pursuant to the provisions of **Exhibit G**; provided, however, the amount of such paid fees included within the Reimbursement Amount calculated pursuant to **Exhibit G** shall be limited to the fees paid less Landowner's prorata share thereof as calculated by City based upon relative benefit from the Drainage Facilities.

21. Reimbursement Provisions. City has undertaken, pursuant to the North Natomas Financing Plan, a policy of providing reimbursement to landowners who construct drainage facilities which create special benefit in the form of drainage capacity, in whole or in part, to other land in the Financing Plan area. If Landowner, pursuant to this Agreement, constructs Drainage Facilities which benefit lands in the North Natomas Finance Plan area which belong to other landowners who do not contribute their proportional share of the cost thereof at the time of construction, Landowner is entitled to reimbursement pursuant to the provisions of **Exhibit G**, attached hereto and incorporated herein by this reference. If said **Exhibit G** is not attached to this Agreement, Landowner and City have agreed that there is no applicable reimbursement right or entitlement for Landowner with regard to the Drainage Facilities constructed hereunder.

22. City Attorney Costs. Landowner shall pay to City the sum of \$1,500.00 for the costs incurred by the City Attorney in negotiation of and preparation of this Agreement.

Landowner:

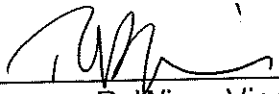
WINNCREST NATOMAS LLC

a Nevada limited liability company

By: Bramlea California LLC

a California limited liability company, its managing partner

By: Lennar Homes of California, Inc.,
a California corporation, its manager

By: 
Thomas P. Winn, Vice President

—AND—

CITY:

CITY OF SACRAMENTO, a charter city

By: 

Name: Thomas V. Lee

Title: Dem.

ATTEST:


City Clerk

APPROVED AS TO FORM:


City Attorney

[NOTARY ACKNOWLEDGMENTS MUST BE ATTACHED]

CITY AGREEMENT NO. **2000-063**

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of

Placer

ss.

On April 25, 2000, before me,

Date

Donna Ross, Notary Public

Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared

Thomas P. Winn

Name(s) of Signer(s)

☒ personally known to me

☐ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal Above

WITNESS my hand and official seal.

Donna Ross

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Agreement for Construction of Drainage Improvements

Document Date: No Date Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer

Signer's Name: _____

- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☐ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER

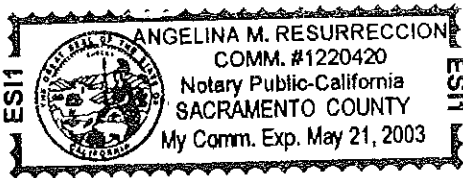
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CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

No. 5907

State of CaliforniaCounty of SacramentoOn May 31, 2000 before me, Angelina M. Resurreccion,
DATE NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"personally appeared Thomas Lee and Virginia K. Henry,
NAME(S) OF SIGNER(S)

- ☒ personally known to me - OR - ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Angelina M. Resurreccion
SIGNATURE OF NOTARY**OPTIONAL**

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

- ☐ INDIVIDUAL
☐ CORPORATE OFFICER

TITLE(S)

- ☐ PARTNER(S) ☐ LIMITED
☐ GENERAL

- ☐ ATTORNEY-IN-FACT
☐ TRUSTEE(S)

☐ GUARDIAN/CONSERVATOR☒ OTHER: Deputy City Manager and Assistant City Clerk May 16, 2000

DATE OF DOCUMENT

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

SIGNER(S) OTHER THAN NAMED ABOVE

DESCRIPTION OF ATTACHED DOCUMENT

Agreement for Construction of Drainage Improv
TITLE OR TYPE OF DOCUMENT

NUMBER OF PAGES

List of Exhibits

- Exhibit "A" Landowner Property description*
- Exhibit "B" Drainage Conditions*
- Exhibit "C" Phasing Plan*
- Exhibit "D" Location Map--Drainage Facilities*
- Exhibit "E" Landowner Construction Contract Language*
- Exhibit "F" Engineers Cost Estimate*
- Exhibit "G" Reimbursement Provisions*
- Exhibit "H" Lake Management Plan*

EXHIBIT A

LANDOWNER PROPERTY DESCRIPTION

EXHIBIT 'A'

#wstbro.doc

LAND OWNER LEGAL DESCRIPTION

All of Lots 65 and 69 of Natomas Central Subdivision, according to the official plat thereof, filed in the office of the recorder of Sacramento County, State of California, in Book 16 of Maps, at Page 3, and a portion of Lots 64, 70, 71, 88, and 89, of map said Natomas Central Subdivision, being a portion of Section 4 and 9, Township 9 North, Range 4 East, Mount Diablo Baseline and Meridian, according the Official Township Plats thereof, described as follows:

BEGINNING at a point which is the southeast corner of said Lot 64; thence along the south boundary line of said Lots 64 and 65, South 88° 49' 42" West, a distance of 3100.00 feet to the southwest corner of said Lot 65; thence along the west boundary line of said Lot 65, North 00° 33' 18" West, a distance of 2009.06 feet to the northwest corner of said Lot 65; thence along the north boundary line of said Lot 65, North 89° 39' 42" East, a distance of 139.80 feet to the southwest corner of said Lot 69; thence along the west boundary line of said Lots 69 and 89, North 00° 33' 18" West, a distance of 3423.80 feet to a point on the southwesterly right-of-way line of Interstate Highway 5, per Individual Grant Deed to the State of California, recorded as Document No. 821130-832, in said County, also being the beginning of a non-tangent curve concave to the southwest having a radius of 2370.00 feet, and to which a radial line bears North 13° 29' 34" East; thence leaving the west boundary line of said Lot 89, and proceeding along said southerly right-of-way line, southeasterly 391.58 feet, along said curve through a central angle of 09° 28' 00" to the beginning of a non-tangent line; thence continuing South 66° 55' 04" East, a distance of 256.52 feet to the beginning of a tangent curve concave to the northeast having a radius of 1230.00 feet; thence continuing along said southwesterly right-of-way line per Grant Deed to the State of California, recorded as Document No. 870825-679, in said County, southeasterly 125.95 feet, along said curve through a central angle of 05° 52' 02" to the beginning of a non-tangent line; thence continuing, South 72° 55' 56" East, a distance of 1301.92 feet to the beginning of non-tangent curve concave to the southwest having a radius of 970.00 feet, and to which a radial line bears North 16° 53' 49" East; thence southeasterly 384.38 feet, along said curve and said right-of-way line through a central angle of

22° 42' 16" to the beginning of a non-tangent curve concave to the southwest having a radius of 3830.00 feet, and to which a radial line bears North 39° 36' 05" East; thence southeasterly 240.59 feet, along said curve and right-of-way line through a central angle of 03° 35' 57" to the beginning of a non-tangent curve concave to the southwest having a radius of 570.00 feet, and to which a radial line bears North 43° 44' 13" East; thence southeasterly 294.44 feet, along said curve and said right-of-way line through a central angle of 29° 35' 49" to the beginning of non-tangent line; thence continuing along said southwesterly right-of-way line, South 16° 08' 43" East, a distance of 1115.76 feet; thence continuing, North 89° 26' 42" East, a distance of 35.01 feet to a point of intersection with the east boundary line of said Lot 71, said east boundary line also being the east line of said Section 4, also being the east boundary line of a Deed to the County of Sacramento, recorded as Book 1986, Page 205, Official Records of said County; thence along the east boundary line of said Lots 71, 70, and 64, South 00° 33' 18" East, a distance of 3060.14 feet to the POINT OF BEGINNING.

Containing 14,429,762.76 square feet or 331.2618 acres, more or less.

Basis of Bearings for this description is between found Caltrans monuments 24-241 and 24-236A as shown on the Record of Survey Map recorded in Book 42 of Surveys, at Page 14, in said County. Said line is taken to bear North 28° 19' 35" West

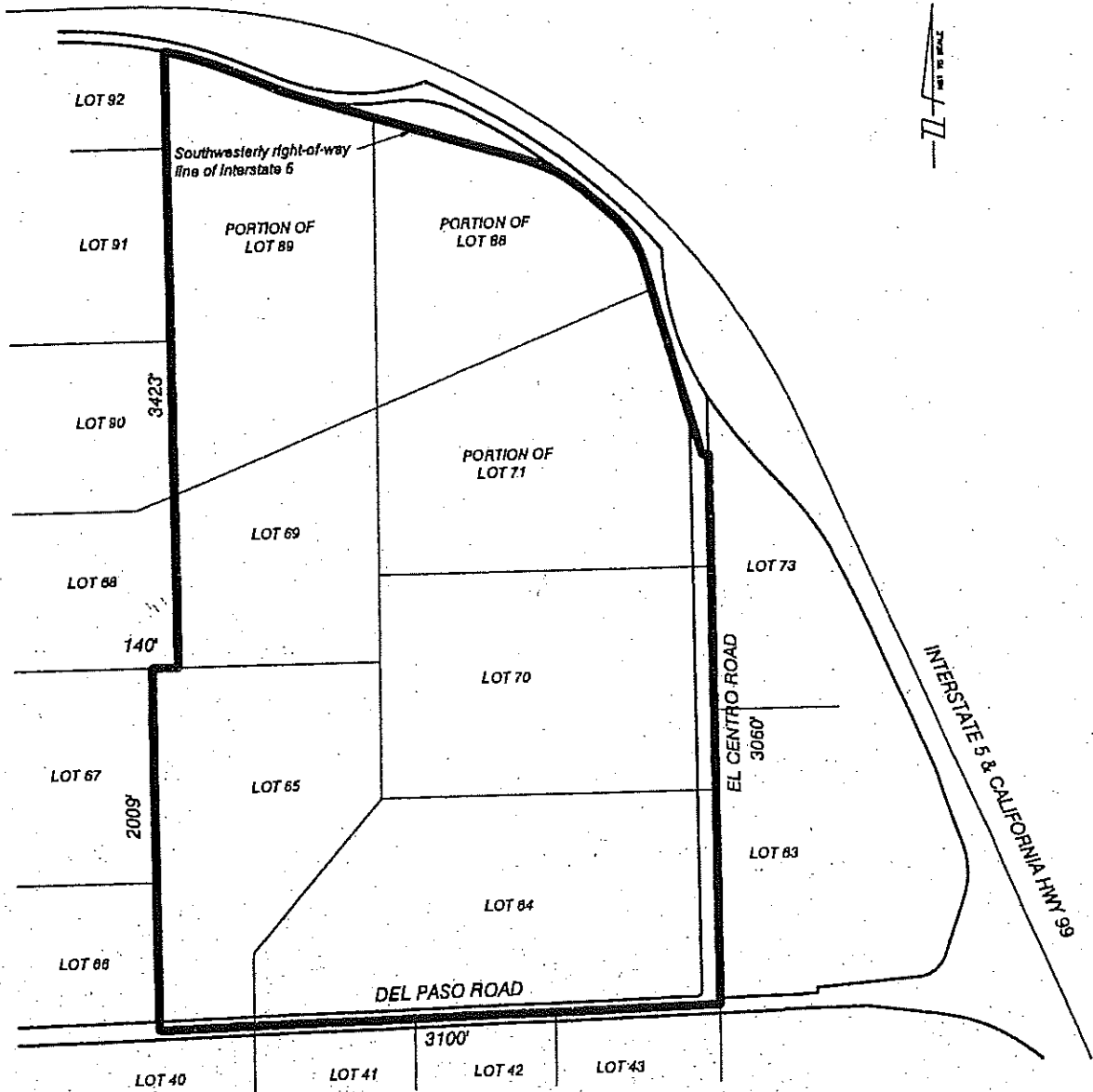
February 22, 2000

END OF DESCRIPTION



EXHIBIT "A"
LAND OWNER AREA

INTERSTATE 5



The Spink Corporation

4\LOT5\5000-5\51250087\EXHIBIT.DWG MARCH 20, 2024 nikel

EXHIBIT B

DRAINAGE CONDITIONS

EXHIBIT B

DRAINAGE CONDITIONS

Exhibit I-4

PUD CONDITIONS OF APPROVAL

The following conditions apply to the Westborough PUD:

- a. Prior to approval of any development request within the Westborough PUD, a Special Permit must be approved by the City Planning Commission or Planning Director - as applicable.
- b. The property owners of the PUD shall participate in the North Natomas Landscaping and Lighting District and any other applicable Lighting and Landscaping Districts, once adopted, to fund the maintenance costs of landscaping and lighting needs throughout the project area.
- d. Any development within Westborough PUD must comply with the Residential and Non-Residential Development Guidelines in the Comprehensive Floodplain Management Plan.
- e. The PUD Development Guidelines shall incorporate all applicable Expanded North Area Design Review District standards related to single and two family residential uses and multi-family residential uses. Any development within the PUD shall comply with these standards.
- f. The North Natomas Community Plan requires that high density residential projects in excess of 200 units and 8 acres must create multiple apartment complexes separated by a local street or other linkage. No Special Permit shall be approved for a high density residential project that exceeds the apartment complex size unless a local street or other public linkage has been provided between apartment complexes.
- g. Front-on lots on streets with projected volumes greater than 4,000 average daily trips (ADT) should be discouraged. Front-on lots in these locations must incorporate special design features to lessen their impact on street operations. These features include, but are not limited to: additional building setbacks, circular or hammerhead driveways, sidewalks separated from the curb (if allowed), etc. to the satisfaction of Public Works and Planning and Development Departments.

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DATE ADOPTED:

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OCT 26 1999

EXHIBIT B

DRAINAGE CONDITIONS

feet adjacent thereto as a public utility easement for underground facilities and appurtenances;

21. Designate a parcel of land for an electric substation to be acquired by the Sacramento Municipal District having approximately 1 acre of net usable area. The exact size and location of the substation parcel shall be by mutual agreement of SMUD and the property owners prior to the recordation of the Final Map. Contact Marvin Johnson at (916) 732-5338 for size and location.

Note: SMUD is planning 69 kV overhead routes along Del Paso and El Centro Roads for the future substation site.

22. The owner/developer must disclose to future/potential owners the existing or proposed 69kV electrical facilities.
23. Provide two 20' x 40' exclusive easements for Pacific Bell's Controlled Environmental Vaults (CEV's) to the satisfaction of Pacific Bell.

24. Storm drainage facilities shall be designed in compliance with the City's North Natomas Drainage and Procedures Manual.

25. All sewer facilities shall be constructed in accordance with an approved master sewer study for the project. Prior to any trunk sewer design, a coordination and reimbursement meeting shall be held with CSD-1 staff.
26. A Homeowners' Association shall be formed whose responsibilities include maintenance of the private collector sewer.
27. County of Sacramento Improvement Standards shall apply to all on-site sewer construction.

CSD-1 Advisories:

- a. A sewer study must be completed and accepted by CSD-1 staff prior to submittal of sewer improvement plans.
- b. Development of this property may require the payment of sewer impact fees. The applicant should contact the Fee Quote Desk at 875-6679 for sewer impact fee information.

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P98-112: Westborough PUD

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DRAINAGE CONDITIONS

28. Prior to sign-off of the Final Map, Natomas Central Mutual Water Company shall be notified of map processing. In addition, all assessments due on the property shall be paid. If land use is other than agricultural, severance from the company is required. Pursuant to Company by-laws, severance from the Company requires execution of a stock cancellation agreement with Natomas Central Mutual Water Company, and severance fees must be paid.

City Utilities

29. An assessment district, community facilities district or other financing mechanism approved in writing by the City must be formed for the purpose of constructing all common drainage facilities within detention basin sub-area 8A and any additional drainage capacity or facilities required to accommodate development of the subject area in accordance with the drainage master plan for sub-basin 8A and other applicable drainage plans and criteria for North Natomas. For this purpose, "other financing mechanism" includes but is not limited to a fully executed agreement approved as to form by the City Attorney, which provides for funding and construction of the said facilities, and which provides for posting or depositing with the City unconditional security for performance of the landowner's obligations, which security is adequate in the sole and exclusive discretion of the City, and which is in a form acceptable to the City Attorney.
30. The applicant and/or any successor shall fully participate in any financing mechanism, including but not limited to assessment districts, or community facilities districts formed for the purpose of financing the facilities specified in the previous condition, and any such mechanism formed for the purpose of financing the drainage facilities required under the North Natomas Comprehensive Drainage Plan. For this purpose, "fully participate" requires that the applicant and/or any successor shall, notwithstanding the provisions of Articles XIII C and/or XIII D of the California Constitution, or any other applicable federal or state law, rule or regulation, waive and relinquish any right to protest or vote against the formation of the mechanism and/or the levy of any assessment or tax pursuant thereto; actively participate in a positive manner in the proceedings for formation of the mechanism and/or the levy of any assessment or tax pursuant thereto; and pay all taxes, assessments and/or fees

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DRAINAGE CONDITIONS

levied pursuant thereto.

31. A drainage master plan for this site and the entire North Natomas Comprehensive Drainage Plan "Detention Basin 8A" drainage area must be completed and approved by the Department of Utilities. This plan is required to show the sizes of all trunklines in the major right-of-ways (as depicted in the North Natomas Community Land Use Plan). All outfall structures, drainage channels, detention basins and pump stations shall also be shown. Outfall structures must be located where the lake perimeter (bulkhead) is adjacent to the road right-of-way. If an outfall structure is placed between residential lot lines, then a separate lot (typical width 30 feet to 40 feet) must be dedicated in fee title to the City of Sacramento for access and maintenance. A phasing plan for drainage infrastructure, if appropriate, shall be approved by the Department of Utilities and included in the final master drainage plan report.
32. A water master plan for this entire area must be completed and approved by the Department of Utilities prior to recordation of the final master parcel map. This study shall also determine if the existing water distribution infrastructure is adequate to supply fire flow demands resulting from developing this project. All water mains shall be placed within the asphalt section of public street right-of-ways as per the City's Design Procedures Manual, unless otherwise approved by the Department of Utilities. Dedicate in fee title to the City Lot Z (Water Tank site). Lot Z shall be a minimum of approximately 260 feet by 260 feet. Lot Z shall be located so that maintenance vehicles will have street access to the Water Tank site.
33. A sanitary sewer master plan for this entire area must be completed and approved by Sacramento County Sanitation District No. 1 prior to recordation of the final master parcel map. The sewer master plan shall be provided to the Department of Utilities to assure that no conflicts with water or drainage facilities exist within the streets or easements. All sewer lines shall be placed within the asphalt section of public street right-of-ways as per the City's Design Procedures Manual, unless otherwise approved by the Department of Utilities and Sacramento County Sanitation District No. 1.
34. Properly abandon under permit, from the City and County Environmental Health Division, any well or septic system located on

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DRAINAGE CONDITIONS

the property prior to recordation of the final master parcel map.

35. Final design of the detention basins shall be coordinated and approved by the Department of Utilities.
36. All existing easements and all existing right-of-ways shall be shown on the Tentative Master Parcel Map. No water or storm drainage easements shall be abandoned on this map without the written approval of the Department of Utilities.
37. Dedicate all necessary easements, right-of-way, or fee title property on the final map as required to implement the approved drainage, water and sewer studies, per each approving agency requirements.
38. The full width of the private streets shall be dedicated as an easement for the water distribution and drainage system. All water and drainage facilities within the subdivision shall be constructed to City standards and approved by the Department of Utilities prior to acceptance of maintenance responsibilities. The easement shall include language assuring Department of Utility personnel and maintenance vehicles shall have unrestricted access to any private streets and easements at all times. Private streets shall have a minimum paved width (from lip of gutter to lip of gutter) of twenty five feet (25').
39. If the applicant wants the City to maintain and operate the on-site (private) storm drainage facilities, a written request must be filed with the Department of Utilities (per the Policy for Private Streets in Residential Areas).
40. The applicant shall develop a lake management plan subject to approval by the Department of Utilities. This management plan will address the operation and maintenance of flood control, water quality and other items directly related to the drainage system.
41. The applicant shall execute an agreement with the City which delineates the maintenance responsibilities of the Homeowners Association (HOA). This agreement shall include a provision which, in the event of the HOA's failure to adequately perform their maintenance responsibilities, allows the Department of Utilities to perform maintenance and be reimbursed for such maintenance by the HOA.

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DRAINAGE CONDITIONS

42. The applicant shall provide a water supply canal and right-of-entry for Natomas Central Mutual Water Company (NCMWC) to replace the existing water supply canal (canal 13A) and easement (40' ditch easement per 589 O.R. 184 joint use with State per 690313 O.R. 264). The relocation of the existing canal and easement shall be to the satisfaction of NCMWC and the Department of Utilities. Relocation of the existing canal and easement may require the reconfiguration of the proposed lots along the west boundary of the project.

43. Dedicate to the City an easement for the operation and maintenance of the 54-inch storm drain outfall pipe located in the County. The location of the pipe and the width of the easement shall be to the satisfaction of the Department of Utilities.

ADVISORY NOTES:

The following advisory notes are informational in nature and are not requirements of the Tentative Master Parcel Map:

1. Comply with Section 40.08.850 of the City Code regarding Master Parcel Maps, Ordinance No.95-013, Dated March 1995.
2. Prior to the issuance of any building permits, provide the City with a copy of the certificate of payment of school fees for the applicable school district(s).
3. This project is within the SAFCA Operations and Maintenance Assessment District No. 1, the North Area Local Project Capital Assessment District No. 2, and the SAFCA Capital Improvement Fee Equalization (CIEF) area. Therefore, the property owner will be required to pay these special benefit assessments and the CIEF based on the proposed land use and building intensity.

4. Prior to issuance of any building permits within the subject area all sanitary sewer, storm drainage, water, and flood control improvements shall be in place and fully functioning or an interim infrastructure plan and agreement shall be required.
5. Post construction, stormwater quality control measures shall be incorporated into the development to minimize the increase of urban runoff caused by development of the area. Since the project is in an

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DRAINAGE CONDITIONS

area served by a regional water quality control facility only source control measures are required. Refer to the draft "Manual of Standards for Design of New Development On-Site Stormwater Quality Control Measures" dated January 23, 1995, for appropriate source control measures.

6. Subject property must complete annexation to both the Sacramento Regional County Sanitation District and County Sanitation District No. 1 of Sacramento County or execute sanitary sewer service agreement with Sacramento Regional County Sanitation District and County Sanitation District No. 1 prior to issuance of building permits.
7. This project is 331 ± acres, therefore the project is required to comply with the State "NPDES General Permit for Stormwater Discharges Associated with Construction Activity" (State Permit). To comply with the State Permit, the applicant will need to file a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to construction. A copy of the State Permit and NOI may be obtained from the Department of Utilities by calling 433-6318.
8. The applicant must comply with the City of Sacramento's Grading, Erosion and Sediment Control Ordinance. This ordinance requires the applicant to show erosion and sediment control methods on the subdivision improvement plans. These plans shall also show the methods to control urban runoff pollution from the project site during construction.
9. Depending upon project phasing and the construction pace of surrounding development, developers in North Natomas may be required to construct water transmission mains (pipes greater than 12"). In such cases, reimbursement agreements between the City and developers will be negotiated.
10. Prior to occupancy within the subject area, all sanitary sewer, storm drainage, water and flood control improvements shall be in place, fully functioning, and a notice of completion shall be issued by Public Works.
11. Gas service may be available to this project if desired. The developer should contact PG&E's Service Planning Department as

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EXHIBIT D

DRAINAGE CONDITIONS

owners prior to the recordation of the Final Map. Contact Marvin Johnson at (916) 732-5338 for size and location.

Note: SMUD is planning 69 kV overhead routes along Del Paso and El Centro Roads for the future substation site.

47. The owner/developer must disclose to future/potential owners the existing or proposed 69kV electrical facilities.
48. Provide two 20' x 40' exclusive easements for Pacific Bell's Controlled Environmental Vaults (CEV's) to the satisfaction of Pacific Bell.

49. Storm drainage facilities shall be designed in compliance with the City's North Natomas Drainage and Procedures Manual.

50. All sewer facilities shall be constructed in accordance with an approved master sewer study for the project. Prior to any trunk sewer design, a coordination and reimbursement meeting shall be held with CSD-1 staff.
51. A Homeowners' Association shall be formed whose responsibilities include maintenance of the private collector sewer.
52. County of Sacramento Improvement Standards shall apply to all on-site sewer construction.

CSD-1 Advisories:

A sewer study must be completed and accepted by CSD-1 staff prior to submittal of sewer improvement plans. Development of this property may require the payment of sewer impact fees. The applicant should contact the Fee Quote Desk at 875-6679 for sewer impact fee information.

53. Prior to sign-off of the Final Map, Natomas Central Mutual Water Company shall be notified of map processing. In addition, all assessments due on the property shall be paid. If land use is other than agricultural, severance from the company is required. Pursuant to Company by-laws, severance from the Company requires execution of a stock cancellation agreement with Natomas Central Mutual Water Company, and severance fees must be paid.

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EXHIBIT B
DRAINAGE CONDITIONS

City Utilities

54. Prior to or concurrent with the submittal of improvement plans, a project specific drainage study as described in section 11.7 of the City Design and Procedures Manual shall be approved by the Department of Utilities. The 10-year and 100-year HGL's developed using the Sacramento City/County Drainage Manual Volume 2 Hydrology Standards, dated December 1996, or amendments thereto shall be shown on the improvement plans. Drain inlets shall be a minimum of 6 inches above the 10-year HGL. Building pad elevations shall be a minimum of 1.00 foot above the 100-year HGL and approved by the Department of Utilities. All drainage lines shall be placed within the asphalt section of public-right-of-ways as per the City's Design and Procedures Manual, unless otherwise approved by the Department of Utilities.
55. Prior to or concurrent with the submittal of improvement plans, a project specific water study shall be approved by the Department of Utilities.
56. The water distribution system shall be designed to satisfy the more critical of the two following conditions:
- a. At maximum day peak hour demand, the operating or "residual" pressure at all water service connections shall be at least 30 pounds per square inch.
 - b. At average maximum day demand plus fire flow, the operating or "residual" pressure in the area of the fire shall not be less than 20 pounds per square inch.
- Two points of service for the water distribution system for this subdivision or any phase of this subdivision are also required. All water lines shall be placed within the asphalt section of public-right-of-ways as per the City's Design and Procedures Manual, unless otherwise approved by the Department of Utilities.
57. Meet all County Sanitation District requirements.

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DRAINAGE CONDITIONS

58. The proposed development is located within the Reclamation District 1000 (RD 1000). Obtain approval from RD 1000 and pay necessary fees.
59. Per Sacramento City Code, section 40.07.710, "no final map shall be certified [by the Director of Public Works] until the required improvements have been installed or agreed to be installed in accordance with Chapter 40.12 (Subdivision Improvements)."
60. Paragraphs (a), (b), (c), (d), (f), (n) and (q) of Section 40.12.1211 of the City Code shall be required for this development. Off-site water and drainage main extensions may be required.
61. Properly abandon under permit, from the City and County Environmental Health Division, any well or septic system located on the property prior to recordation of the final map.
62. A grading plan showing existing and proposed elevations is required. Adjacent off-site topography shall also be shown to the extent necessary to determine impacts to existing surface drainage paths. No grading shall occur until the grading plan has been reviewed and approved by the Department of Utilities.
63. This project is 331 +/- acres, therefore the project is required to comply with the State "NPDES General Permit for Stormwater Discharges Associated with Construction Activity" (State Permit). To comply with the State Permit, the applicant will need to file a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) and prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to construction. A copy of the State Permit and NOI may be obtained from the Department of Utilities by calling 264-1400.
64. The applicant must comply with the City of Sacramento's Grading, Erosion and Sediment Control Ordinance. This ordinance requires the applicant to show erosion and sediment control methods on the subdivision improvement plans. These plans shall also show the methods to control urban runoff pollution from the project site during construction.

Notice of Decision & Findings of Fact
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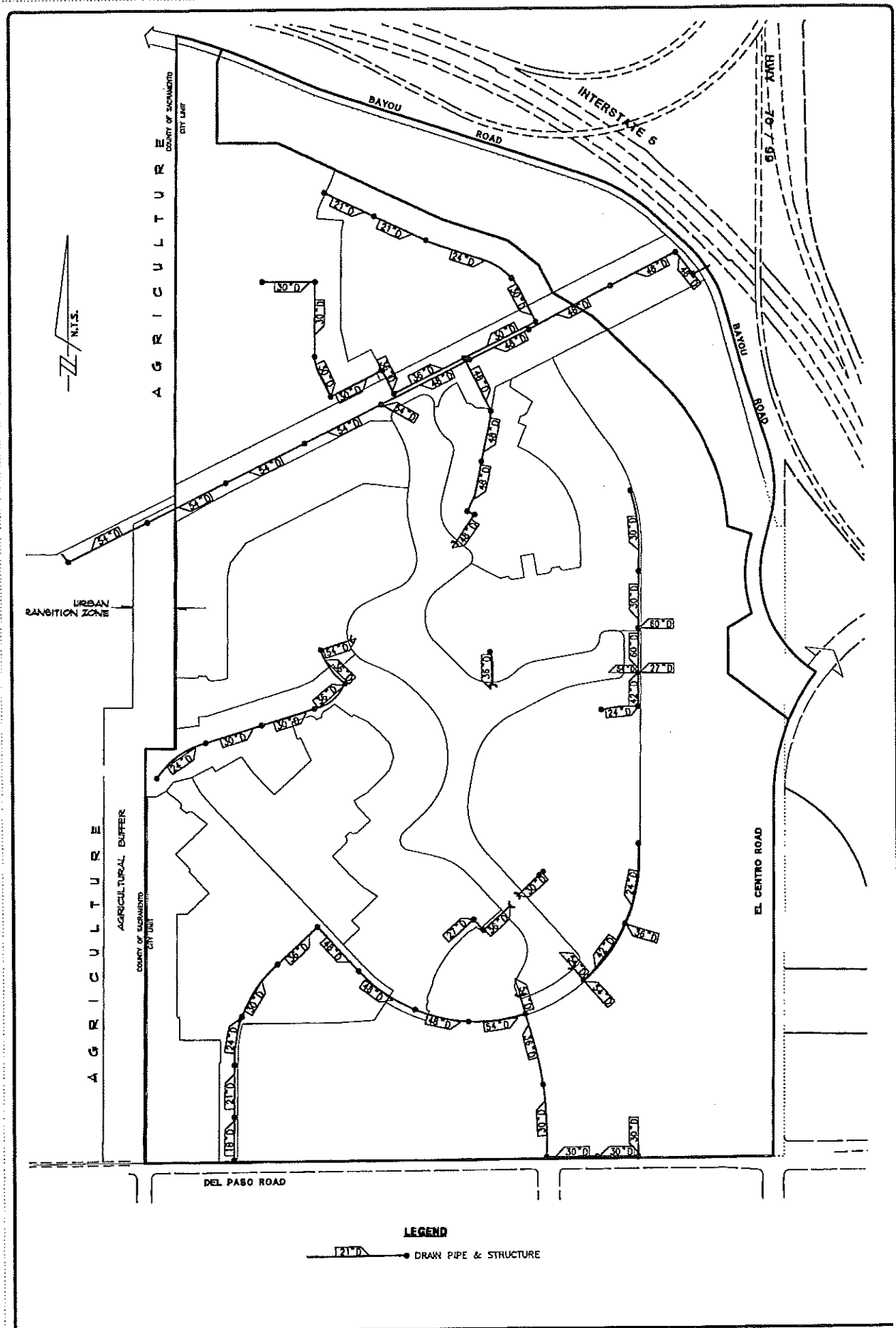
62

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EXHIBIT C

PHASING PLAN



LEGEND

21" 10' 0" DRAIN PIPE & STRUCTURE

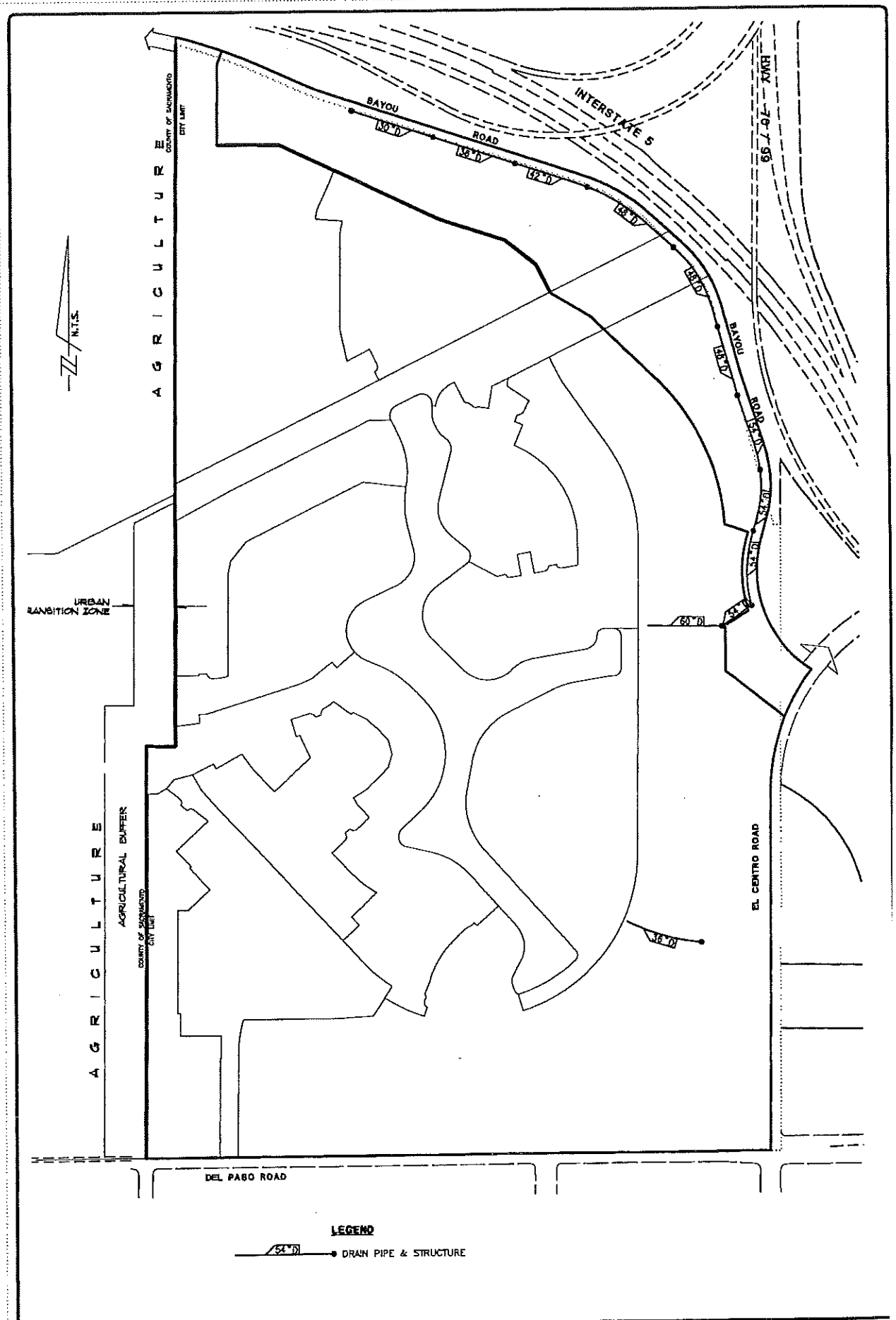
DATE	DESCRIPTION
04/24/00	PHASE 1 COMMON FACILITIES
04/24/00	PHASE 1 COMMON FACILITIES
04/24/00	PHASE 1 COMMON FACILITIES

04/24/00	PHASE 1 COMMON FACILITIES
04/24/00	PHASE 1 COMMON FACILITIES
04/24/00	PHASE 1 COMMON FACILITIES
04/24/00	PHASE 1 COMMON FACILITIES

**DETENTION BASIN SUB-AREA 8A
PHASE 1
COMMON FACILITIES**

The Splink Corporation
2550 VENTURE DRIVE WEST
SACRAMENTO, CA 95833-3258
(916) 925-3550 OFC
(916) 921-9274 FAX

FIGURE NO
C1



DATE	DESCRIPTION
04/24/00	DESIGN
04/24/00	REVISION
04/24/00	REVISION

PROJECT NO.	51250075
PROJECT NAME	DETENTION BASIN SUB-AREA 8A
PROJECT LOCATION	SACRAMENTO, CA

DETENTION BASIN SUB-AREA 8A PHASE 2 COMMON FACILITIES

The Splink Corporation
2580 VENTURE OAKS WAY
SACRAMENTO, CA 95833-3288
(916) 825-3550 OTC
(916) 821-9274 FAX

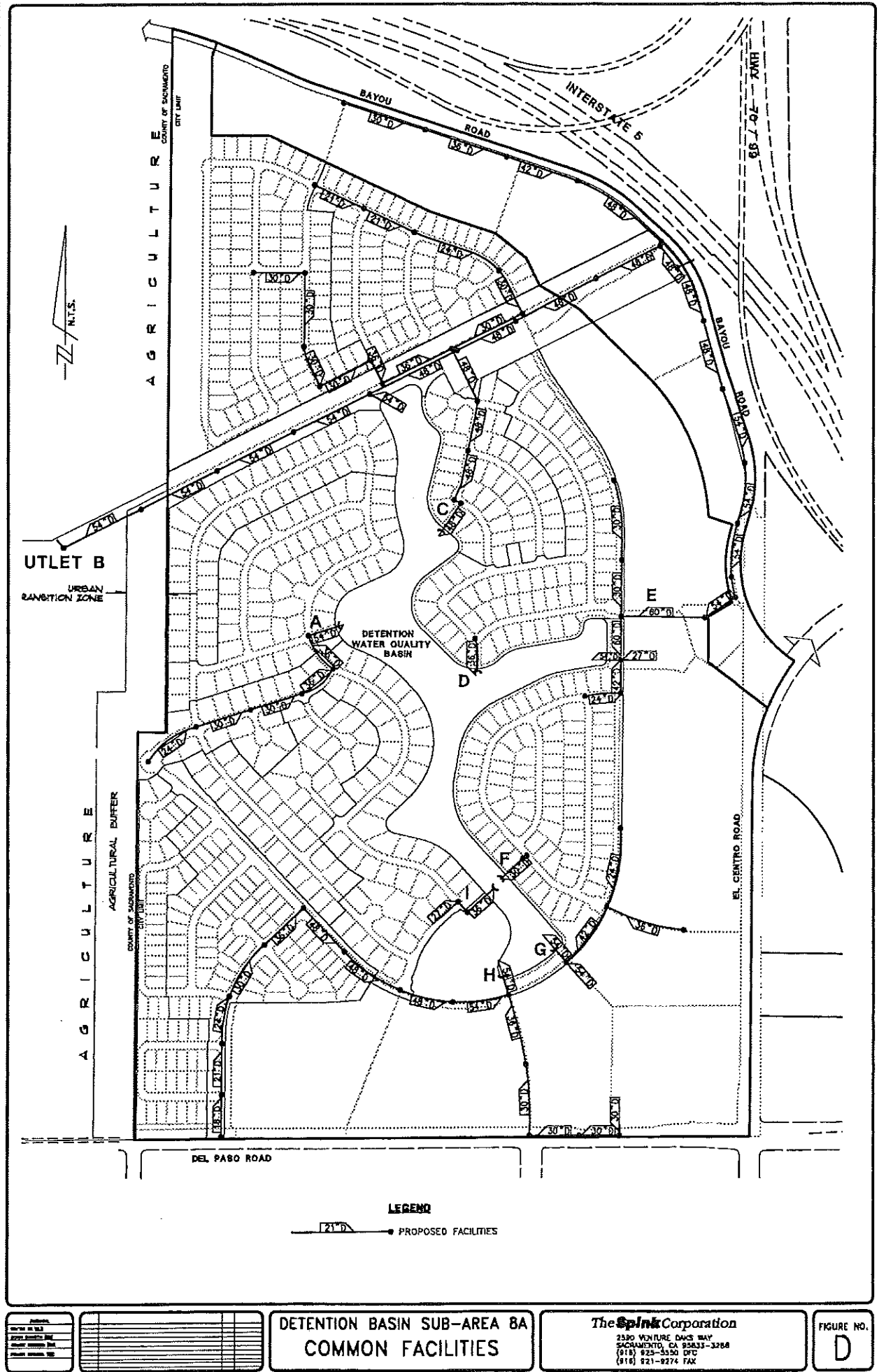
FIGURE NO
C2

EXHIBIT D

LOCATION MAP--DRAINAGE FACILITIES

The following notes are expressly agreed to be part of this Agreement for all purposes:

1. This Exhibit describes the common facilities as now constituted. Exact pipe sizes and locations could change, and Landowner bears all risks associated with any such changes.
2. No final subdivision map for "Phase II" for Westborough Villages 1, 2, 3, 4 & 5, or any of them, may be submitted for approval or approved before approval of the final subdivision map or maps for all of the Phase I Subdivision Map area for Westborough Village, except with the express prior written approval of the City of Sacramento Department of Public Utilities. See attached map of subdivision phase.



DETENTION
BASIN

WESTBOROUGH
VILLAGE 6

FUTURE
REC.
CENTER

WESTBOROUGH
VILLAGE 2
PHASE 1

WESTBOROUGH
VILLAGE 2
PHASE 2

WESTBOROUGH
VILLAGE 1
PHASE 1

WESTBOROUGH
VILLAGE 2
PHASE 2

DETENTION BASIN SUB-AREA 8A SUBDIVISION PHASES FOR WESTBOROUGH VILLAGES

LOT 40
MAYNARD CENTRAL
SUBDIVISION
18 B.M. 3

LOT 41
MAYNARD CENTRAL
SUBDIVISION
18 B.M. 3

LOT 42
MAYNARD CENTRAL
SUBDIVISION
18 B.M. 3

LOT 43
MAYNARD CENTRAL
SUBDIVISION
18 B.M. 3

EXHIBIT E

LANDOWNER'S CONSTRUCTION CONTRACT LANGUAGE

Contractor agrees and covenants to, and shall fully indemnify, defend and hold harmless City and its elective and appointive boards, commissions, officers, employees and agents, from and against any and all liabilities, penalties, losses, damages, costs, expenses (including reasonable attorneys' fees, whether for outside counsel or the City Attorney), causes of action, claims, or judgments (collectively, "Claims") arising by reason of any death, bodily injury, personal injury, property damage or violation of any law or regulation to the extent arising from any actions or omissions in connection with the design, construction, operation, maintenance or repair of that portion of the Drainage Facilities designed or constructed by Contractor, by any of the following: Contractor, any of Contractor's engineers, subcontractors, or any other person or entity employed by or acting on behalf of or as the authorized agent for Contractor, or any of Contractor's engineers or subcontractors.

EXHIBIT F

ENGINEER'S COST ESTIMATE

EXHIBIT F
ENGINEER'S COST ESTIMATE
NORTH NATOMAS BASIN 8A

DATE: 2/23/00
 BY: TRC

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
I	DETENTION/WQ BASIN				
A	PHASE I DETENTION GRADING				
1	Clearing and Grubbing	19	AC	50.00	950.00
2	Basin Excavation	442,900	CY	2.00	885,800.00
3	Clay Liner Excavation	17,900	CY	2.00	35,800.00
4	Clay Liner Stockpile	31,300	CY	2.20	68,860.00
	TOTAL PHASE 1 DETENTION GRADING				\$ 991,410.00
B	PHASE II DETENTION GRADING				
1	Basin Excavation	21,000	CY	3.50	73,500.00
2	Clay Liner Placement	31,300	CY	4.00	125,200.00
3	Dewatering	1	JOB	125,000.00	125,000.00
4	Basin Headwall	9,400	LF	50.00	470,000.00
5	Boat Ramp	1	JOB	20,000.00	20,000.00
6	Erosion Control	188,000	SF	0.05	9,400.00
7	Basin Well	1	JOB	100,000.00	100,000.00
8	Detention Basin Planting/Fish	1	JOB	30,000.00	30,000.00
9	Rock Blanket at Headwall	65,800	SF	2.00	131,600.00
	TOTAL PHASE II DETENTION GRADING				\$ 1,084,700.00
	SUBTOTAL DETENTION/WQ BASIN				\$ 2,076,110.00
	Contingencies @ 20%				\$ 415,222.00
	Engineering, Constr. Mgmt., Inspection, Testing, Constr. Staking @ 25%				\$ 519,027.50
	Habitat Conservation Plan	19	AC	2,656.00	\$ 50,464.00
	Land Cost	19	AC	75,000.00	\$ 1,425,000.00
	TOTAL DETENTION/WQ BASIN				\$ 4,485,823.50

**EXHIBIT F
ENGINEER'S COST ESTIMATE
NORTH NATOMAS BASIN 8A**

DATE: 2/23/00

BY: TRC

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
II	COMMON DRAINAGE OUTFALLS PHASE 1				
A	OUTFALL A				
1	Drain Pipe 24"	286	LF	104.00	29,744.00
2	Drain Pipe 30"	556	LF	130.00	72,280.00
3	Drain Pipe 36"	408	LF	156.00	63,648.00
4	Drain Pipe 54" HDPE	180	LF	270.00	48,600.00
5	MH No. 3	3	EA	4,000.00	12,000.00
6	Saddle MH	2	EA	5,000.00	10,000.00
7	Junction Box w/ Canal Gate	1	EA	30,000.00	30,000.00
8	Cutoff Walls	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL A				275,272.00
B	DETENTION BASIN OUTLET B				
1	Clearing & Grubbing	1	JOB	5,000.00	5,000.00
2	Outlet Weir Structure	1	JOB	50,000.00	50,000.00
3	4'x4' RCP	150	LF	300.00	45,000.00
4	Drain Pipe 54"	1,700	LF	234.00	397,800.00
5	Saddle MH	6	EA	5,000.00	30,000.00
6	Junction Box	1	EA	15,000.00	15,000.00
7	Outlet Headwall NMWC	1	EA	15,000.00	15,000.00
8	Rock Slope Protection	1	JOB	5,000.00	5,000.00
9	54" Flap Gate	1	EA	8,000.00	8,000.00
10	Excavation	6,500	CY	3.50	22,750.00
11	NMWC Siphon	1	JOB	15,000.00	15,000.00
12	Dewatering	1	JOB	15,000.00	15,000.00
13	Erosion Control	4,000	SF	0.50	2,000.00
	SUBTOTAL DETENTION BASIN OUTLET B				\$ 625,550.00
B	OFFSITE AGRICULTURE AREA OUTFALL B				
1	Clearing & Grubbing	1	JOB	5,000.00	5,000.00
2	Drain Pipe 48"	1,800	LF	208.00	374,400.00
3	Saddle MH	6	EA	5,000.00	30,000.00
4	Siphon	3	EA	15,000.00	45,000.00
	OFFSITE AGRICULTURE AREA OUTFALL B				\$ 454,400.00

EXHIBIT F
ENGINEER'S COST ESTIMATE
NORTH NATOMAS BASIN 8A

DATE: 2/23/00
BY: TRC

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
	SUBTOTAL OUTFALL B				\$ 1,079,950.00
C	OUTFALL C				
1	MH No. 3	6	EA	4,000.00	24,000.00
2	Saddle MH	8	EA	5,000.00	40,000.00
3	Junction Box w/ Canal Gate	1	EA	30,000.00	30,000.00
4	Cutoff Walls	2	EA	4,500.00	9,000.00
5	Drain Pipe 48" HDPE	180	LF	240.00	43,200.00
6	Drain Pipe 48"	829	LF	208.00	172,432.00
7	Drain Pipe 42"	517	LF	182.00	94,094.00
8	Drain Pipe 36"	855	LF	156.00	133,380.00
9	Drain Pipe 30"	837	LF	130.00	108,810.00
10	Drain Pipe 21"	725	LF	91.00	65,975.00
11	Drain Pipe 15"	277	LF	65.00	18,005.00
	SUBTOTAL OUTFALL C				738,896.00
D	OUTFALL D				
1	Drain Pipe 36" HDPE	180	LF	180.00	32,400.00
2	Junction Box w/ Canal Gate	1	EA	22,000.00	22,000.00
3	Cutoff Walls	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL D				63,400.00
E	OUTFALL E				
	PHASE 1				
1	Drain Pipe 66" HDPE	110	LF	330.00	36,300.00
2	Drain Pipe 54"	50		234.00	11,700.00
3	Drain Pipe 42"	175	LF	182.00	31,850.00
4	Drain Pipe 36"	202	LF	156.00	31,512.00
5	Drain Pipe 30"	720	LF	130.00	93,600.00
6	Drain Pipe 24"	161	LF	104.00	16,744.00
7	Junction Box w/Slide Gate	1	EA	30,000.00	30,000.00
8	Saddle MH	2	EA	5,000.00	10,000.00
9	MH	3	EA	4,000.00	12,000.00
10	Cut Off Wall	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL E PHASE 1				282,706.00
F	OUTFALL F				

**EXHIBIT F
ENGINEER'S COST ESTIMATE
NORTH NATOMAS BASIN 8A**

**DATE: 2/23/00
BY: TRC**

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Drain Pipe 30" HDPE	170	LF	150.00	25,500.00
2	Junction Box w/ Canal Gate	1	EA	23,000.00	23,000.00
3	Cutoff Walls	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL F				57,500.00
G	OUTFALL G				
1	Drain Pipe 60" HDPE	110	LF	310.00	34,100.00
2	Drain Pipe 54"	306		234.00	71,604.00
3	Drain Pipe 42"	334	LF	182.00	60,788.00
4	Drain Pipe 36"	400	LF	156.00	62,400.00
5	Drain Pipe 24"	399	LF	104.00	41,496.00
6	Junction Box w/Slide Gate	1	EA	30,000.00	30,000.00
7	Saddle MH	3	EA	5,000.00	15,000.00
8	MH	2	EA	4,000.00	8,000.00
9	Cut Off Wall	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL G				332,388.00
	OUTFALL H				
	Drain Pipe 48" HDPE	130	LF	240.00	31,200.00
	Drain Pipe 48"	1237	LF	208.00	257,296.00
	Drain Pipe 36"	266	LF	156.00	41,496.00
	Drain Pipe 30"	1003	LF	130.00	130,390.00
	Drain Pipe 24"	235	LF	104.00	24,440.00
	Drain Pipe 21"	251	LF	91.00	22,841.00
	Drain Pipe 18"	201	LF	78.00	15,678.00
	Junction Box w/Slide Gate	2	EA	30,000.00	60,000.00
	Saddle MH	5	EA	5,000.00	25,000.00
17	MH	6	EA	4,000.00	24,000.00
18	Cut Off Wall	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL H				641,341.00
	OUTFALL I				
1	Drain Pipe 36" HDPE	150	LF	180.00	27,000.00
2	Drain Pipe 30"	60	LF	130.00	7,800.00
3	Junction Box w/ Canal Gate	1	EA	22,000.00	22,000.00
4	Cutoff Walls	2	EA	4,500.00	9,000.00
	SUBTOTAL OUTFALL I				65,800.00

EXHIBIT F
ENGINEER'S COST ESTIMATE
NORTH NATOMAS BASIN 8A

DATE: 2/23/00
 BY: TRC

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
	SUBTOTAL COMMON DRAINAGE OUTFALLS PHASE 1				3,537,253.00
	Contingencies @ 20%				\$ 707,450.60
	Engineering, Constr. Mgmt., Inspection, Testing, Constr. Staking @ 25%				\$ 884,313.25
	TOTAL COMMON DRAINAGE OUTFALLS PHASE 1				\$ 5,129,016.85
II	COMMON DRAINAGE OUTFALLS PHASE 2				
A	OUTFALL E PHASE 2				
	Drain Pipe 30"	400	LF	130.00	52,000.00
	Drain Pipe 36"	398	LF	156.00	62,088.00
	Drain Pipe 42"	407	LF	182.00	74,074.00
	Drain Pipe 48"	1344	LF	208.00	279,552.00
	Drain Pipe 54"	1878	LF	234.00	439,452.00
5	MH No. 3	1	EA	4,000.00	4,000.00
6	Saddle MH	13	EA	5,000.00	65,000.00
	SUBTOTAL OUTFALL E PHASE 2				976,166.00
	Contingencies @ 20%				\$ 195,233.20
	Engineering, Constr. Mgmt., Inspection, Testing, Constr. Staking @ 25%				\$ 244,041.50
	TOTAL COMMON DRAINAGE OUTFALLS PHASE 2				\$ 1,415,440.70
	TOTAL BASIN 8A				\$11,030,281.05

EXHIBIT G

REIMBURSEMENT PROVISIONS

1. **Reimbursement Amount.** Upon full completion of the Drainage Facilities, and upon City acceptance of the Drainage Facilities, Landowner shall be entitled to reimbursement for a portion of the actual Drainage Facilities costs incurred by Landowner for construction of the Drainage Facilities (the "Reimbursement Amount"). An estimate of the Drainage Facilities costs is set forth in the Phasing Plan (Exhibit C). The Reimbursement Amount shall be determined upon City review and approval of the actual Drainage Facilities costs incurred by Landowner. Landowner shall provide copies of all contracts, change orders and invoices for the costs of the work and such other documentation as may be requested by City to verify the total Drainage Facilities Costs incurred by Landowner. In making its determinations regarding the Reimbursable Amount, City shall take into consideration any and all actual costs incurred by Landowner pursuant to this Agreement relating to designing, engineering and the construction of the Drainage Facilities, which costs include, but are not limited to, all engineering, architectural, other professional fees, cost of construction and supervision, obtaining of materials and labor, a four percent (4.00%) construction management fee, city and other public fees and costs associated with the acquisition of easements and/or real property (including, without limitation, Landowner-paid back taxes, assessments, and property related fees or charges) necessary with regard to the completion of the matters set forth in this Agreement, and any funds advanced or otherwise paid by Landowner pursuant to Section 3.B. of this Agreement.

In accordance with Section 84.02.210 of the Sacramento City Code, the Reimbursement Amount, as reduced from time to time by reimbursements paid, shall be subject to adjustments for inflation calculated consistent with the provisions of Section 84.02.211 of the Sacramento City Code, but shall not otherwise accrue interest. The portion of the total Drainage Facilities Costs as to which Landowner shall be entitled to reimbursement shall be as specified in the Phasing Plan (Exhibit C), which specifies the proportionate cost shares of the various landowners within the basin.

2. **Sources for Reimbursement.** Nothing in this Agreement shall be construed to create an obligation of, or be attributable to, City's general or special funds, or any other funds in the hands of City or its accounts now and in the future, except as otherwise expressly provided herein. City's obligation hereunder to provide reimbursement is limited to the following alternative sources of funds, to the extent funds are available therefrom and not otherwise committed for reimbursement by the City to others:

a. Drainage Fees that are paid to the City by other landowners within Basin 8A pursuant to the Fee Ordinances for North Natomas, shall be maintained by the City in a separate account (the "Drainage Fee Account") and shall not be commingled with any other development or impact fees collected with respect to North Natomas, including without limitation, any transit fees. City shall impose a Drainage Fee upon any landowner within the basin who is obligated to provide reimbursement in accordance with the provisions of the Phasing Plan, which fee shall be payable upon such landowner's first recordation of a master parcel map, parcel map

or subdivision map, or issuance to such landowner of a special permit, whichever first occurs.

Landowner acknowledges that a portion of such Fees, up to, but not in excess of **Three Percent (3%)** of the Fee, will be retained by the City to defer the City's cost of administration of this Agreement.

b. Funds generated through public financing mechanisms consistent with the North Natomas Finance Plan and created and implemented by City in its sole and exclusive discretion, which includes funds for the acquisition of the Drainage Facilities and/or the payment of reimbursement to Landowner for financing some or all of the Drainage Facilities costs pursuant to this Agreement. Nothing in this subsection shall affect the status of Landowner's right, if any, to protest or otherwise challenge such public financing mechanisms, in whole or in part, or any previous waiver of such rights.

Nothing in this Agreement shall be construed in such a manner as to allow Landowner to be reimbursed from more than one source; for example, should Landowner be reimbursed by virtue of fee credits and/or reimbursements from Fees generated through the North Natomas Finance Plan, Landowner shall not be entitled to reimbursement from funds generated through a Mello-Roos District or other similar mechanism.

3. **Timing of Reimbursement.** Upon full completion of the Drainage Facilities and acceptance thereof by the City, the City will pay Landowner the amount then available in the Drainage Fee Account for reimbursement up to, but not in excess of, the approved and properly proportioned Reimbursement Amount for the Drainage Facilities. Thereafter, on a quarterly basis, commencing on the first of the calendar month following completion of the Drainage Facilities and continuing on the first of each month thereafter until the Reimbursement Amount is reduced to zero, the City will pay Landowner the amount then available for reimbursement in the Facilities Account, up to the then outstanding Reimbursement Amount.

4. **Agreements with Other Landowners.** To protect such reimbursement to Landowner, City agrees that any and all other credit/reimbursement agreements involving reimbursements from the Drainage Fee will include the following terms:

(i) The reimbursement amount under the other agreements shall be based on the actual costs incurred for the improvements, as reviewed and approved by the City, and the contracts for such work shall be awarded based on a competitive bid as required for comparable City Drainage Facilities.

5. **Allocation of Reimbursements.** If and to the extent Landowner assigns its right to reimbursements under this Agreement, City's reimbursement to Landowner shall nevertheless be made directly to Landowner unless and until City is notified in writing by Landowner and an assignee that payment should be made otherwise.

6. **Special provisions.** Because each North Natomas drainage basin area is unique, it is necessary to include certain special provisions. If no special provisions are needed, none will be added to this section.

EXHIBIT H

WESTBOROUGH
LAKE MANAGEMENT PLAN

PERRY LAKE MANAGEMENT

APPLIED ECOLOGY

WESTBOROUGH LAKE MANAGEMENT PLAN

Prepared for:

Lennar Communities
2240 Douglas Boulevard, Suite 200
Roseville, CA 95661

Prepared By:

Stuart Perry
Perry Lake Management
PO Box 4122
Stockton, CA 95204

and

Mark D. Sytsma, Ph.D.
Applied Ecology
POB 2421
Tualatin, OR 97062

February 2000

v.2.05

WESTBOROUGH LAKE MANAGEMENT PLAN

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Tualatin, OR 97062

February 2000

v.2.05

SUMMARY

The centerpiece of the Westborough development is an approximately 19-acre lake that will provide aesthetic and limited recreational uses for residents. The lake will also serve as a drainage detention basin for flood control and water quality enhancement for the Westborough development and land to the North of the development within the same drainage. The lake will be part of a comprehensive set of best management practices developed to manage stormwater runoff from the development. The lake will be operated as a vegetated wet pond. Rooted aquatic plants will sequester pollutants in runoff and enhance the function of the lake as a sedimentation basin. Water level during the summer will be maintained by input of well water.

If high nutrient concentrations are present the well water, excessive algae growth may occur, particularly before aquatic vegetation is well established. Excessive algae growth may create nuisance conditions in the summer that require management to meet use and water quality objectives. Excessive algae can be managed using appropriate dose and formulation of algaecides following City approval. Aquatic plant harvesting will be conducted regularly to remove sequestered pollutants.

Monitoring will be an integral part of the management plan for the lake. Regular monitoring will document the efficacy of the management plan and allow for informed decisions about future management options. Monitoring will include quarterly measurement of lake level, water transparency, temperature and dissolved oxygen, pH, nutrients, chlorophyll, water column metals, and coliform bacteria. Metals in plants will be measured prior to each harvest. Metals in sediments will be measured once per year. Quarterly and annual reports on the monitoring results will be produced.

A public education program is recommended to provide information to residents on best management practices, to prevent aquatic weed infestation and development of a resident waterfowl

community, and to explain the management objectives and operation of the wet pond for stormwater treatment.

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Westborough Lake Management Plan

This report provides a description of the expected condition and required management activities for the lake at the Westborough development. Management objectives for the lake and a management strategy for meeting those objectives are provided. The Plan will be implemented by a qualified lake management firm under contract with the homeowners association.

INTRODUCTION

Lakes are valuable amenities that provide recreational, aesthetic, and wildlife habitat benefits to residential communities. Lakes contain their own biological communities, however, that change in response to seasons and physical and chemical characteristics of the water. The chemical and physical characteristics of the water are, in turn, determined by the soils, activities, and land use in the watershed of the lake. Runoff from residential watersheds can enter lakes through storm drains. Urban runoff contains numerous constituents that can influence the biological communities in lakes that receive the runoff.

Productivity, or the amount of biological activity in lakes, is determined by a combination of hydrologic, chemical, and biological factors. Often, lake productivity is determined by the amount of nutrients entering the lake. The importance of nutrient loading of lakes in determining lake status is reflected in the way lakes are typically classified – by trophic state. Trophic state refers to the level of primary production (plant growth) in a lake. Lakes with abundant of algae and aquatic plants are termed eutrophic (well-fed), lakes with little plant growth are termed oligotrophic (poorly-fed), lakes somewhere in between are termed mesotrophic (medium-fed). Urban runoff can contribute nutrients to lakes that stimulate productivity. The increase in lake productivity caused by human activity in the watershed is termed cultural eutrophication. Cultural eutrophication can lead to nuisance conditions, including excessive algae and aquatic plant growth.

Trophic state can be determined by examining several lake characteristics that are correlated with productivity (Table 1). Trophic state indices based transparency, total phosphorus concentration, and chlorophyll *a* concentration (Carlson 1977) are also commonly used to classify lake trophic state. According to Carlson's indices, a TSI less than 40 indicates an oligotrophic state, a TSI between 45 and 50 indicates mesotrophy, and a TSI greater than 53 indicates eutrophy.

Table 1. Qualitative characteristics of oligotrophic and eutrophic lakes (adapted from Welch 1980).

Characteristic	Trophic State	
	<i>Oligotrophic</i>	<i>Eutrophic</i>
Depth	Deep	Shallow
Hypolimnion:epilimnion	>1	<1
Primary production	Low	High
Rooted macrophytes	Few	Abundant
Phytoplankton density	Low	High
Number of phytoplankton species	Few	Many
Frequency of phytoplankton blooms	Rare	Common
Hypolimnion dissolved oxygen depletion	No	Yes
Nutrient supply	Low	High
Fish species	Cold water,slow growth,restricted to hypolimnion	Warm water, fast growth; tolerate low oxygen in hypolimnion and high temperatures in epilimnion

Cultural eutrophication is a major determinant of lake trophic state, but it is not the sole determinant. Other factors, such as hydrology and interactions among the biota in a lake, also play a role. Hydrology influences trophic state by a flushing action. If the rate that water moves through a lake is high enough, algae are washed out of the lake faster than they can reproduce, which leads to low algae densities and oligotrophic, clear-water conditions.

The structure of the food web in a lake can also influence the amount of algae present and the trophic state of a lake. Algae are eaten by zooplankton (tiny, nearly microscopic animals). An abundance of zooplankton can keep algae densities low and the water clear. Small fish eat zooplankton, however, and when small fish are abundant zooplankton densities are low, algae densities high, and the water turbid – a eutrophic condition. Another link in the food chain can be added – large fish that eat small fish – which results in few small fish, abundant zooplankton, few algae and clear water.

Clear-water conditions can also occur in lakes with high nutrient loading if abundant macrophytes are present. Macrophytes compete with algae for light and nutrients in the water column, and there is evidence that shallow, high-nutrient lakes can exist in two states: a turbid, algae dominated state; and a clear-water, macrophyte dominated state. Altering the structure of the food web or changing the relative abundance of macrophytes and algae, a technique termed biomanipulation, can therefore cause changes in the water quality of a lake and has been used successfully to reduce algae densities and enhance water quality in eutrophic lakes.

THE WESTBOROUGH PROJECT

The Westborough Project is a 331-acre mixed-use development located in the North Natomas area of Sacramento, California. The Project will include 1255 residential lots, neighborhood commercial, and light industrial development. An elementary school, community park, and private recreational center are also planned. Westborough will be located to the northwest of the intersection of El Centro and Del Paso Roads and to the southwest of the I-5/Highway 99 intersection (Figure 1). The topography of the area is essentially flat and is currently undeveloped agricultural land. A north/south trending drainage canal bisects the central portion of the lake area. A northeast/southwest trending drainage canal is located north of the site and is identified as a “drainage corridor” for the development. This drainage system receives surface water from an

approximately 417-acre area north of the site to Elkhorn Boulevard (Wallace Kuhl and Assoc, 1999).

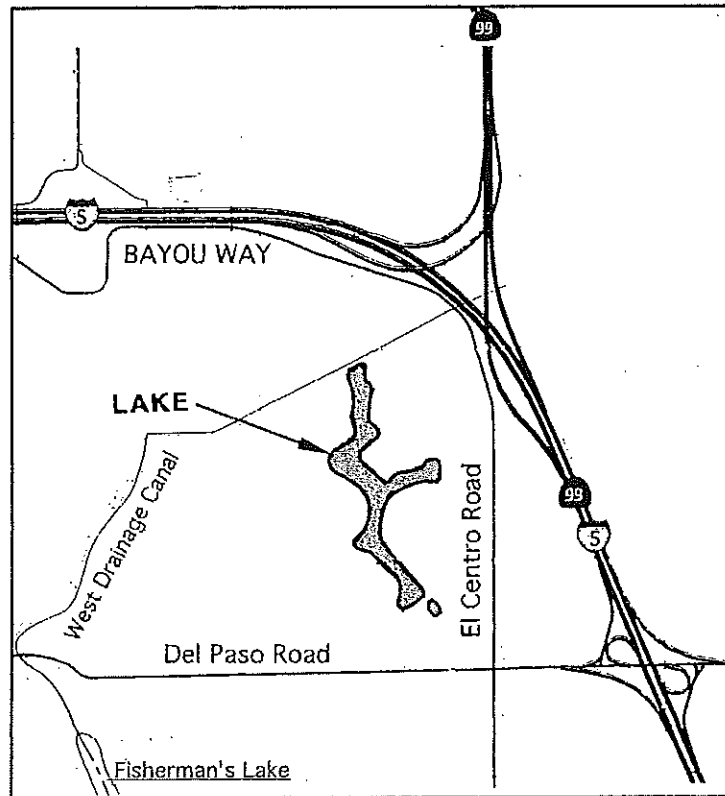


Figure 1. Vicinity map for Westborough lake.

Design

The lake at Westborough is designed as an amenity for the residents and to provide flood control and water quality enhancement of surface water runoff from the development and surrounding areas (Figure 2). The lake is designed as a wet basin, and will contain water year-round. The approximately 19-acre lake basin will be surrounded by a perimeter headwall that is 26 inches above the expected winter water surface elevation and 17 inches above the expected summer water elevation. For public safety, typical grading will include a perimeter shelf approximately four feet wide and one to two feet deep, depending upon the season. The lakebed will slope from the perimeter shelf to a maximum depth of 14 feet at a 4:1 or flatter slope (Wallace Kuhl and Assoc. 1999). The lake bottom will be sealed with a 12-inch thick clay layer.

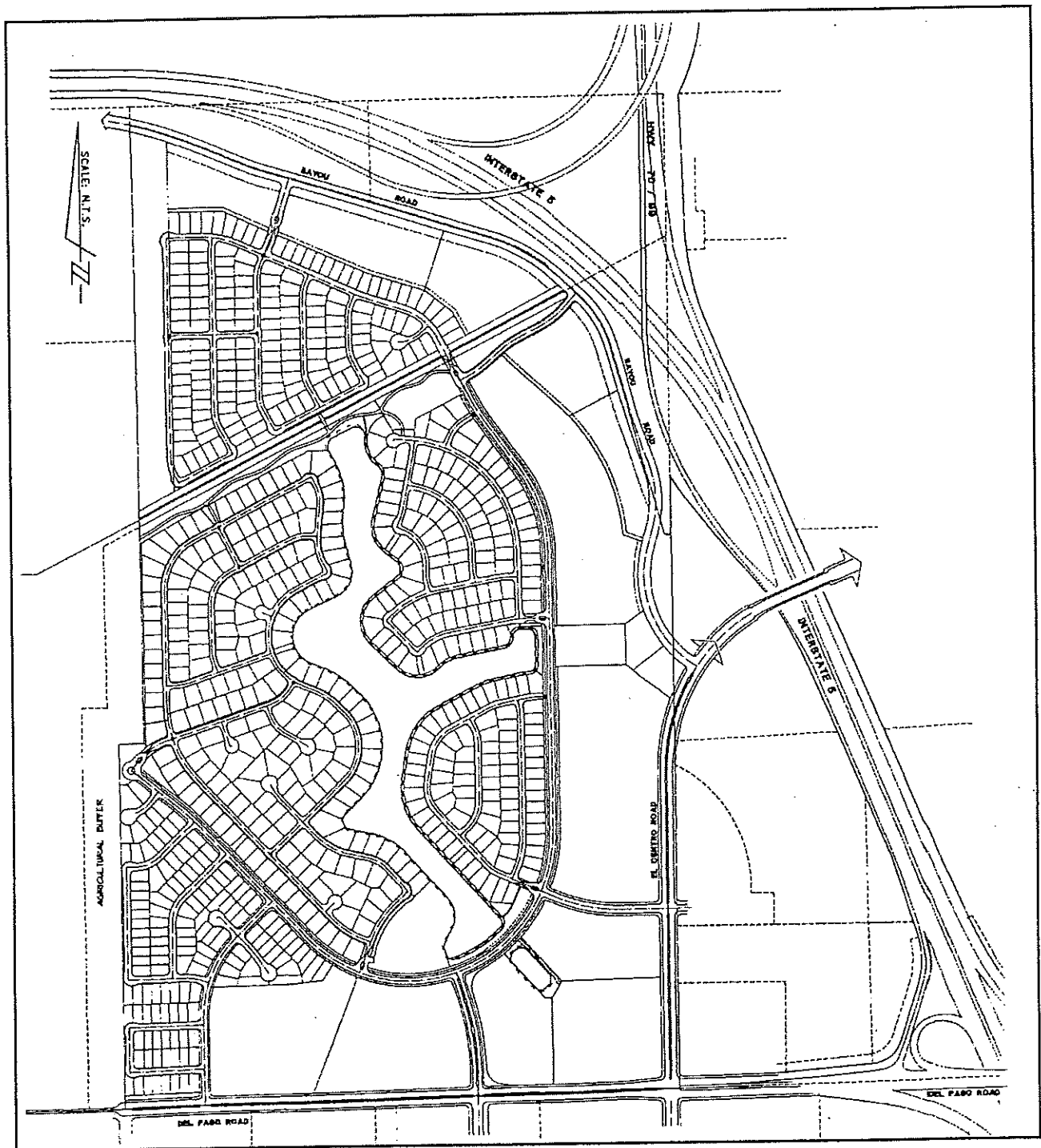


Figure 2. Map of Westborough development.

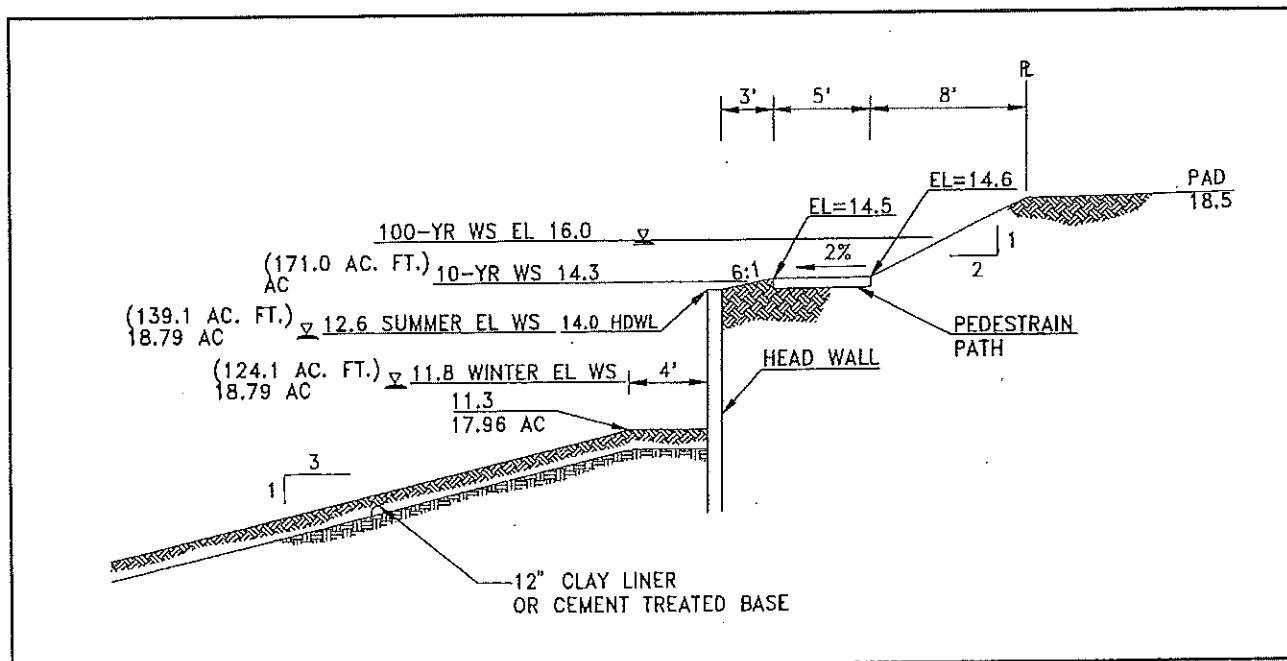


Figure 3. Detail of lake perimeter wall elevations (from Spinks Corp. drawing).

Lake water level will fluctuate with the seasons to permit damping of the winter runoff hydrograph and extend the detention time of water in winter. The summer surface water elevation will be 12.6 feet, and the winter elevation 11.8 feet, above mean sea level. Under typical conditions, the lake depth will vary from 11.8 (winter, no-flow condition) to 12.6 feet (summer). The lake volume in the summer and winter will be approximately 139 and 124 acre-feet, respectively. At maximum storage capacity, 16.0 feet above mean sea level (100-year), the accumulated lake volume will be approximately 175 acre-feet. Thus, the accumulated volume of the lake between the winter operating pool and the maximum pool is approximately 51 acre-feet. The lake will be filled, and summer water level (12.6 feet above MSL) maintained, with water drawn from a well located at the south end of the lake.

The surface water drainage system for the Westborough development will direct runoff into the lake at up to eight major inlets. The inlets will be located in the arms of the lake, between lots, and adjacent to the road, which will assist in circulation during the runoff period. The distance

between the nearest stormwater inlet and the outlet of the lake is greater than 700 feet, which will limit “short-circuiting” of flow between the inlets and outlet and maximize pollutant removal efficiency. Outflow from the lake will discharge to the West Drainage Canal at a point west of the Plant 3 pumpstation. The West Drainage Canal flows into Fisherman Lake and then into the Sacramento River just upstream of its confluence with the American River via the RD 1000 pumpstations 3, 1A and 1B.

Functioning of the lake for pollutant removal requires provision of adequate water detention time and proper design. During winter, the lake will provide stormwater management and pollutant removal. Hydrologic flow estimates indicate that the maximum estimated storage volume of is sufficient to retain a 10-year, 12-hour storm event. A more typical event would result in an estimated runoff volume near the winter storage volume.

The lake will be one component in a package of best management practices (BMPs) for water quality at the Westborough development. The lake will be managed as a vegetated, wet-pond system for treatment of urban runoff. Vegetated wet ponds are an effective water quality BMP. If properly maintained, vegetated wet ponds can achieve high removal rates for sediment, biological oxygen demand (BOD), organic nutrients, and trace metals. Biological processes within the pond also remove soluble nutrients, such as nitrates, ammonia, and orthophosphorus, which contribute to nutrient enrichment and eutrophication. Wet ponds are most cost-effective in large, intensively developed sites (Schuler 1987) like the Westborough development. Other BMPs that will contribute to water quality enhancement at Westborough include use of landscape plants and maintenance that minimize water and fertilizer use; a public education program to raise awareness of how actions by individuals can contribute to water quality improvement or degradation; and applicable implementation of the City’s comprehensive stormwater management plan.

Wet ponds can remove pollutants effectively over long periods with appropriate maintenance. The primary mechanisms for pollutant removal are sedimentation and biological uptake. Sedimentation efficacy is primarily a function of detention time. Biological uptake is the

primary removal pathway for soluble nutrients that have minimal settling rates. For wet ponds with a basin volume:mean storm runoff volume ratio greater than 4.0, as expected under typical operating conditions at Westborough, estimated pollutant removal rates are greater than 80 to 90 percent for sediment, 60 to 65 percent for total phosphorus, 45 to 50 percent for total nitrogen, 40 to 45 percent for BOD, and 65 to 70 percent for many metals (U.S. EPA 1986, Sugnet and Associates 1997).

Biological uptake of soluble nutrients and sedimentation in the lake will be enhanced by establishing rooted aquatic plants, or macrophytes, in the lake. Established stands of rooted aquatic plants in lakes can efficiently “scrub” nutrients and other pollutants from inflowing water. Numerous studies have documented that shallow lakes with aquatic plants have clearer water, with lower algae abundance than shallow, unvegetated lakes. Experience with other urban lakes in the Sacramento area has shown that vegetated lakes are more efficient in removing sediments from stormwater than unvegetated lakes.

Vegetated wet ponds require periodic harvesting to maintain beneficial uses and optimal function. Excessive aquatic plant biomass often leads to diurnal fluctuations in dissolved oxygen concentration during summer when plant biomass and photosynthetic rate is highest. Plants raise dissolved oxygen concentrations during the day through photosynthesis, but consume dissolved oxygen during the night when they respire. Dissolved oxygen concentration during the early morning hours, after a night of respiration, can be quite low and lead to fish kills. In addition, surface mats of aquatic vegetation detract from the aesthetic appeal of lakes and often require management. Furthermore, as plant biomass accumulates, growth and pollutant sequestering slows because of self-shading.

Expected Lake Water Quality and Biology

The lake at Westborough is shallow and thermal stratification is not anticipated. If groundwater is undersaturated with dissolved oxygen, however, aeration may be required to meet the management objectives for the lake. Other groundwater-fed lakes in residential developments in

the Sacramento area do not require aeration prior to discharge. If the lake is highly productive some transient dissolved oxygen depletion may occur and pH may be high during summer months.

Although no well-water chemistry is available, the typically high nutrient concentrations found in Central Valley groundwater can be expected to support abundant algae populations in the lake during the summer months. Experience with other vegetated wet ponds in the Sacramento area suggests that aquatic plants should grow well in the lake, however, establishment of populations capable of reducing nutrient concentrations low enough to limit algae growth may take two to four years. It is likely that some control of algae in the water will be required to meet management objectives (see below) during the period of macrophyte establishment.

Macrophytes must be harvested periodically from vegetated wet ponds to remove nutrients sequestered in the plants and to stimulate growth and additional nutrient uptake. Some species of macrophytes, such as Eurasian watermilfoil, Brazilian elodea, and Parrot's feather, can establish high density stands that form surface mats and interfere with recreational and aesthetic uses of lakes. If these species become established, additional management will be required to maintain the lake.

Problems associated with runoff from residential lawns and streets (e.g., bacteria, grease and oils, pesticides, and sediment) will be minimized by use of the BMPs noted above.

LAKE USES AND MANAGEMENT GOALS

Development of a lake management plan for a manmade lake, such as the lake at Westborough, is a four-step process. The initial step is to identify the uses of the lake and the water quality characteristics desired. In most cases, clear water, free of surface algae mats and aquatic macrophytes (rooted aquatic plants) are primary management goals. The second step is to identify existing or potential factors that could contribute to failure to meet the management goals. The third step is to develop a plan for minimizing water quality problems by reducing or eliminating

its causes. The fourth step is to develop a strategy for dealing with the nuisance organisms that proliferate when nutrient concentrations permit.

Lake Uses

The lake at Westborough is intended to provide aesthetic, stormwater detention, water quality enhancement, and limited recreational benefits. Recreational use of the lake will be limited to non-motorized boating. No swimming or other water contact recreation will be permitted.

Management Goals

Management goals for a lake are based on the intended uses. Lake users and residents of the Westborough development will ultimately determine the desired condition and uses of the lake. All uses, however, must be consistent with, and subordinate to, the City's use of the lake as a flood control and water quality enhancement facility. If the uses identified above are adopted by the community, the following management goals will be adopted as narrative water quality standards:

- ✓ • The lake should be free of surface mats of algae and macrophytes.
- Cyanobacteria blooms that could harm pets should be avoided.
- ✓ • ~~The lake should not produce nuisance odors.~~
- ✓ • The lake will not contain concentrations of coliform bacteria associated with human wastes that exceed established water quality standards.
- ✓ • The lake shall not contain floating material such as oil and grease, trash, scums, etc. that interfere with uses.
- ✓ • Toxic materials that harm aquatic life or human health will not accumulate in the lake or be discharged from the lake.

- ✓ • Outflow from the lake will not harm aquatic life in aquatic systems downstream from the discharge.
- The lake will be managed to reduce urban runoff and stormwater runoff pollutants discharged from the outfall structure to the maximum extent practicable as determined by the City in accordance to its NPDES stormwater permit and stormwater management program.

Specific numeric lake management criteria are recommended as target values (Table 2). There is considerable uncertainty about the condition of the lake and development of the biological community after filling. It must be noted that the Westborough lake will take a number of years to reach a stable state. Processes such as final buildout, formation and consolidation of sediments, and introduction and establishment of biological communities will alter the condition of the lake and interact to influence future water quality. Monitoring will be required to assess the practicality of some of the management criteria.

Table 2. Management objectives for water quality in the lake at Westborough.

Constituent	Management Objective
Dissolved Oxygen	5 mg/L - mean monthly concentration 4 mg/L - single value
Clarity	0.5 m Secchi depth - mean monthly value
pH	6.5-9
Total Coliform Bacteria	500/1100 MPN/100 mL ¹
Dissolved Inorganic Nitrogen ²	0.15 mg/L
Un-ionized ammonia	0.02 mg/L - single value
Total Phosphorus	0.05 mg/L - mean monthly concentration
Carlson's Trophic State Index	< 60
Chlorophyll	0.015 mg/L - mean monthly concentration 0.04 mg/L - single value

¹ Median value/90th percentile value

² Nitrate + Ammonia-nitrogen

Metals monitoring of water, plants, and sediment should be conducted to assess performance of the lake as a stormwater treatment facility. Priority pollutant metals to be assayed include cadmium, chromium, copper, lead, nickel, and zinc. Criterion metals concentrations in water are shown in Table 3. Metals concentration in sediments and plants should not exceed hazardous threshold limits from Title 26.

Table 3. Criterion concentrations for metals in water. (hardness expressed as mg CaCO₃/L)

	Continuous Concentration Criterion (µg/L)	Maximum Concentration Criterion (µg/L)
Cadmium ^{a,b}	$[e(0.7852[\ln(\text{hardness})]-3.490) \times 0.85]$	$[e(1.128[\ln(\text{hardness})]-3.828) \times 0.85]$
Chromium (III) ^{a,b}	$[e(0.8190[\ln(\text{hardness})]-1.465) \times 0.85]$	$[e(0.8190[\ln(\text{hardness})]-3.688) \times 0.85]$
Copper ^{a,b}	$[e(0.8545[\ln(\text{hardness})]-1.465) \times 0.85]$	$[e(0.9422[\ln(\text{hardness})]-1.464) \times 0.85]$
Lead ^{a,b}	$[e(1.273[\ln(\text{hardness})]-4.705) \times 0.25]$	$[e(1.273[\ln(\text{hardness})]-1.460) \times 0.50]$
Nickel ^{a,b}	$[e(0.8460[\ln(\text{hardness})]-1.164) \times 0.85]$	$[e(0.8460[\ln(\text{hardness})]-3.361) \times 0.85]$
Zinc ^{a,b}	$[e(0.8473[\ln(\text{hardness})]-0.761) \times 0.85]$	$[e(0.8473[\ln(\text{hardness})]-0.860) \times 0.85]$

^a Values for aquatic life criteria are based on Quality Criteria for Water 1986 (USEPA 1987) as updated in US EPA (December 22, 1992). Criteria concentrations are expressed in terms of allowable dissolved metal following the US EPA Guidance Document on Dissolved Criteria-Expression of Aquatic Life Criteria-October 1993.

^b Assumes a Water Effects Ratio (WER) of 1.0 until site specific data is obtained. Criterion Concentration = value in table x WER.

MANAGEMENT PLAN

Best Management Practices (BMPs)

Best Management Practices for water quality for the project should focus on prevention of water quality problems. BMPs that focus on water conservation, infiltration, nutrient loading, sediment management, and individual behaviors are listed in Table 4. Because of the aesthetic and nuisance concerns associated with the lake, the BMPs discussed in this Management Plan may be in addition to BMPs required by the City as part of the City's Stormwater Management Program.

Public education is critical to effective BMPs. Therefore, an informational program is recommended to provide residents of the development information on the management objectives, operation of the wet pond, and individual actions that can be taken to protect water quality in the lake.

Table 4. BMPs for protection of Westborough Lake.

- Water conservation measures – reduce surface water runoff
 - Check outside faucets for leaks.
 - Mulch shrubs and other plants to retain soil moisture longer.
 - Use trickle or drip irrigation whenever possible.
 - Maintain lawn sprinklers to avoid “street watering”.
 - Water lawns less frequently but more deeply.
 - Group plants with similar water requirements together.
 - Use native plants that require less water.
- Infiltration measures – allow water to enter the soil rather than runoff the surface
 - Install porous pavement.
 - Direct downspouts onto lawns rather than to the street.
- Nutrient management measures - less fertilizer used on lawns means less nutrients in the lake
 - Apply fertilizers sparingly, never exceed label rates.
 - Never dump lawn clippings and other materials into the water.
 - Do not feed waterfowl, prevent a resident population from establishing.
 - Clean up pet waste immediately.
- Sediment management measures
 - Sweep streets to prevent “washoff” into the lake.
 - Maintain vegetated waterways to avoid erosion.
 - Install silt screens around lake during construction.
 - Incorporate sediment traps and oil and grease separators into storm drains.
 - Use erosion control measures (silt screens, soil covers, etc.) during construction
- Responsible chemical use
 - Avoid using pesticides and fertilizers prior to predicted rainfall.
 - Avoid overwatering after applying fertilizers and pesticides.
- Public Education
 - Develop a public education program to inform residents and lake users about activities they can do to protect lake water quality.

Waterfowl, Fish, and Plant Stocking

Many BMPs implemented by residents and businesses in the development for little or know cost can be very effective in preventing serious water quality problems. Adoption of a prohibition on feeding of waterfowl, for example, can prevent serious water quality problems. Use of the lake by migratory waterfowl will add to the biological diversity and enhance the quality of the aesthetic experience of residents and visitors to the development. A large resident waterfowl population, however, can create management problems. A single duck can excrete 2.1 pounds of nitrogen and 1.3 pounds of soluble phosphorus each year. A population of several hundred resident ducks, which could easily develop on the lake, could be responsible for a significant portion of the nutrient loading to the lake. Resident waterfowl will destroy lakeside vegetation and contribute to erosion of lake banks. The most effective waterfowl management technique is to prevent development of large, resident populations. Residents should not stock domestic waterfowl, and should refrain from feeding wild, transient waterfowl. Uneaten feed will decompose in the water, which will add nutrients and create conditions conducive to the spread of avian botulism and fowl cholera. A restriction against feeding and stocking waterfowl will be incorporated into covenants.

Unauthorized introductions of all organisms should be policed by the Homeowners Association. Some fish species can also contribute to water quality problems through their feeding activities. Fish such as carp and goldfish should not be introduced by residents. Similarly, some aquatic plants can create a nuisance when introduced to a lake. A prohibition against fish and plant stocking will also be incorporated into covenants. Some stocking guidelines are:

- Residents will not release, or allow to be released, any fish, invertebrate, or plant into the lake
- All fish stocking, including original and any subsequent stocking, may be performed only with a permit from the California Department of Fish and

Game. No fish species that require food supplements beyond existing sources in the lake will be permitted.

- Arrangements will be made as soon as possible after the lake is filled for the local mosquito abatement district to establish a population of mosquito fish (*Gambusia affinis*) for mosquito control. The lake will be restocked as necessary to maintain a population sufficient for vector control.

Landscape Practices

Landscape maintenance may also contribute to water quality problems in the lake. Over fertilization can lead to high nutrient concentrations in surface runoff that can stimulate phytoplankton growth. Landscape maintenance personnel often use a calcium-based, slow release fertilizer to reduce the labor of application. These fertilizers are spread liberally, and then the lawns are watered heavily to prevent burning. Under this application scenario, nutrient-rich runoff can enter stormdrains and the lake causing algae to “bloom”.

Landscape maintenance guidelines will be incorporated into covenants for the development as follows:

- Soil tests should be conducted to determine fertilizer requirements. Fertilizer applications should be designed to alleviate deficiencies detected in soil tests. Commercial landscape companies should keep detailed records of test results, application dates and rates, and irrigation schedule.
- Nitrogen fertilizers should not be applied at rates greater than 0.5 pounds per 1,000 square feet and at frequencies greater than every 12 weeks.

- Phosphorus fertilizers should not be applied unless a need is clearly demonstrated, such as the first growing season for newly established turf areas. In no case should the rate exceed 0.05 pounds per 1,000 square feet.
- Fertilizers should not be applied prior to predicted rain events.
- Fertilizer application methods should not allow fertilizer to enter lake water directly.
- There should be no application of fertilizer to drainage ditches, seasonal dry waterways, impervious surfaces, or within 10 feet of the water.
- Irrigation schedules should be designed to prevent runoff from freshly fertilized landscape.
- Landscape contractors should be required to provide at least five days written notice to the Homeowners Association for fertilizer and significant herbicide and insecticide application. The notice should include justification for the action (e.g., copy of soil test report) and a description of rates, application methods and time including precautions to prevent pollution of surface waters, the materials to be applied.
- Disposal of leaves and other organic debris into the lake and/or other waterways (even seasonally dry waterways) should be avoided. Disposal of organic debris in water has several detrimental results. They can cause oxygen depletion when they decompose and they contribute nutrients to the lake water that can stimulate algae growth. Curbside stockpiling of leaves and other “green” waste should be done on the street side of the gutter flow line.
- Landscape planting should avoid use of deciduous trees or shrubs greater than four feet in height when mature within 15 feet of the shoreline to avoid leaf fall into the lake.

Sediment Control

Whenever vegetation is removed from an area, e.g., for construction, preparation for new landscaping, after a fire, etc., the potential for soil erosion and sediment deposition in the lake exists. Sediment deposition in the lake has several undesirable effects. It can reduce light penetration through the water causing beneficial aquatic plants to die. Sediment also carries substantial amounts of nutrients with it, which can contribute to algae growth when the water clears. Lastly, over the long-term sediment deposition causes the lake to become more shallow, warmer, and more productive, i.e., with more algae and nuisance aquatic plant problems. To minimize erosion and sediment deposition in the lake all excavation within the watershed should be done in accordance with the City of Sacramento's Grading and Erosion Control ordinance and National Pollutant Discharge Elimination System (NPDES) permit.

Whatever the method of implementation, through covenants or by voluntary adoption, residents of the Westborough development should be aware of the impacts of their activities on the lake. An aware and informed community is a prerequisite to effective lake management. Signs or an information program that describes the organisms and functioning of the lake and encourages voluntary adoption of BMPs to protect the lake is recommended. Potential subjects for information program include:

- Description and explanation of landscape maintenance guidelines.
- Proper disposal of automotive fluids, cleaning detergents and other wastes.
- Problems caused by resident waterfowl and prohibition against feeding.
- Problems caused by exotic fish and prohibition against stocking.
- Explanation of lake functions as a stormwater treatment facility and overall goals of the lake management plan.

Management of Algae and Rooted Aquatic Vegetation

Even with well-implemented BMPs, nutrients in the groundwater used to maintain lake level in the summer are expected to support abundant algae in the lake. Some form of treatment is likely to be required to meet management objectives. As noted above, the most effective way to prevent algae growth in the lake is to limit the amount of nutrients entering the lake. Management strategies to reduce nutrient loading when the water supply is from groundwater, however, are limited. Nutrient concentration in the inflow could be reduced by treatment of the water prior to discharge into the lake, or treatment of the entire lake, with aluminum sulfate (alum). This management strategy is expensive and when water is treated prior to discharge into the lake a sludge must be disposed. Nutrient precipitation prior to discharge into the lake is not recommended at this time.

Some form of in-lake algae treatment will likely be required to meet the management objectives of the lake during the summer months. The amount of algae in the lake can be reduced by a number of hydrologic, physical, and chemical techniques. Whole lake treatment with alum can provide temporary improvement of water quality, and if algae problems are persistent and difficult to manage with other techniques (see below) a whole lake treatment should be considered. The flushing rate of the lake should be maximized to reduce algae abundance in the lake.

Excessive algae can also be treated with a number of effective algaecides. Various forms of copper have no restrictions on water-use following application, however, the City and State may have use restrictions that differ from those on the label. Copper should be used to control excessive algae in the lake if surface algae scums develop or use is degraded. Copper may injure rooted aquatic plants, however, selection of the correct formulation and dose by a licensed aquatic applicator should permit control of algae with minimal to no effect on rooted plants.

The City must preapprove all chemical applications. The City's water quality requirements have priority over algae control in the lake, and these requirements may limit the use of copper for algae control. If copper applications result in copper concentrations at the discharge point that are

greater than at other wet pond discharges in North Natomas, alternative (*e.g.*, alum treatment) or no algae control must be considered.

Rooted aquatic plants will require periodic harvesting to remove sequestered nutrients and other pollutants. A minimum of two macrophyte harvests are recommended. The first harvest, in July would be conducted to remove accumulated pollutants and to stimulate additional growth and pollutant uptake. A second harvest should occur in fall to remove accumulated pollutants before the plants senesce and they are released back into the water. If nuisance, invasive plants are introduced to the lake additional harvesting may be necessary to meet management objectives. Prior to harvest, plants samples should be collected for metals analyses.

Rooted aquatic plant problems may be avoided if introduction of the problem plants can be prevented. As noted above, some exotic plants, like Eurasian watermilfoil, are particularly troublesome. Every effort should be made to prevent the introduction of these nuisance aquatic plants into the lake. All boats launched in the lake, which have been used in other lakes during the previous two weeks should be inspected for plant fragments that could cause weed problems. This could be a voluntary inspection stimulated by a sign posted at the boat ramp. The sign should also warn residents of the danger of introducing aquarium fish and plants to the lake.

Management of trash and litter

Trash and litter problems can be limited by assuring that adequate numbers of trash receptacles are available and that they are emptied regularly. Trash and litter on the lake may be collected by hand by residents or the service may be purchased from a lake management company.

Management of Water Quality

The water quality criteria are intended as a guide for maintenance of water quality that will meet the management goals for the lake. These criteria are intended to serve as warning signs for

significant water quality problems. Consequently, a single exceedence of any water quality parameter will not necessitate an immediate change in the management plan. If water quality fails to meet the criteria regularly the City, the Homeowners Association, and water quality and lake management experts should evaluate the consequences and impacts of continued exceedence. If it is determined that serious harm to aquatic life in and downstream from the lake will occur, or if regulatory thresholds are exceeded, an in-depth evaluation of the lake and management plan will be necessary. Some possible responses to exceedence of specific water quality criteria are shown in Table 5.

Monitoring

All lake management plans must be adaptive; changes may be required as lake biology and water chemistry evolve. Regular monitoring of lake water quality permits ongoing assessment of the efficacy of the management plan and allows adaptation to changes in the lake.

Monitoring should be an integral part of the management plan. A monitoring program should provide data needed to understand the biological and chemical characteristics of the lake. Some of the monitoring effort may be conducted by interested, well-trained lake shore residents or the service may be purchased from a lake management company. However the data is obtained, it must be incorporated into the management effort to ensure that the management plan is adaptive and effective. Monitoring should include measurement of lake level, water transparency, temperature and dissolved oxygen profiles, pH, nutrients, chlorophyll, suspended solids, and coliform bacteria.

Recommended monitoring parameters are shown in Table 6. Sampling locations are shown in Figure 4. A minimum of quarterly sampling is recommended.

Table 5. Potential response to selected examples of unacceptable water quality.

<u>Parameter</u>	<u>Management Response</u>
pH	<ul style="list-style-type: none"> • Identify cause as short-term or persistent • Calculate rate of loss of available carbonates • Take action to eliminate source or compensate for carbonate loss
Dissolved Oxygen	<ul style="list-style-type: none"> • Identify cause of dissolved oxygen depletion and eliminate
Nitrate-nitrogen	<ul style="list-style-type: none"> • Consider installation of recirculation/aeration system • Examine landscape maintenance practices • Evaluate other potential sources • Eliminate sources
Ammonia-nitrogen	<ul style="list-style-type: none"> • Examine landscape practices • Evaluate in-lake sources (ammonification of organic materials) • Consider aeration to increase nitrification
Phosphorus	<ul style="list-style-type: none"> • Examine landscape practices • Evaluate other sources • Eliminate sources • Anticipate phytoplankton blooms and prepare for treatment
Chlorophyll <i>a</i>	<ul style="list-style-type: none"> • Evaluate nutrient concentrations • Take action to reduce nutrient concentration
Oil and grease	<ul style="list-style-type: none"> • Locate source; prevent remaining reservoir from entering lake • Identify reason source was created and prevent recurrence • If concentrations are high enough to endanger aquatic life contact RWQCB and CDFG for assistance
Coliform bacteria	<ul style="list-style-type: none"> • Post notices • Identify source and eliminate

MANAGEMENT COST ESTIMATE

Prediction of the condition of the lake prior to filling provides only a limited picture of the potential management problems that may be encountered. Estimated lake management costs are based upon expected conditions in the lake and are based upon the need to maintain the lake as an aesthetic amenity in a condition that will not impede flood control or cause water quality impairments or violations downstream of the discharge point. Certain activities are sure to be required including monitoring, algae control, plant harvesting, and trash cleanup. Preventive actions for waterfowl and aquatic weed problems, such as signs and fliers that discourage feeding of waterfowl and introduction of fish and aquatic plants as discussed above, will be incorporated into CC&Rs.

Monitoring of water quality will be conducted. Summer sampling will provide information required for more informed management decisions. The monitoring program should include regular examination of the watershed of the lake to identify activities that could contribute to water quality degradation, such as improper landscape maintenance. Regular monitoring of the lake will facilitate early identification of problems and permit rapid correction of potential detrimental activities.

Management actions depend upon the conditions that develop in the lake and the management objectives determined by the homeowners. Some form of control, however, is likely to be necessary to meet the objectives for the lake. The extent and duration of summer algae problems are unknown at this time and the need for aquatic plant harvesting is a function of the plant growth rate and efficacy of the weed introduction prevention program discussed above. If algae are a problem, they may be controlled with proper copper application, chemical precipitation of nutrients in well-water, more efficient mixing, and/or alteration of system hydrology. Chemical control with an appropriate copper application is recommended and budgeted, however, any chemical application for algae control must first be approved by the City.

Table 6. Frequency, sample type, and number of stations for monitoring water quality in Westborough Lake.

Parameter	Frequency	Sample type	Stations
Water level	weekly in winter biweekly in summer	staff gauge	overflow weir
Temperature	quarterly	profile	3
Dissolved oxygen	quarterly	profile	3
pH	quarterly	profile	3
Specific conductance	quarterly	profile	3
Alkalinity	quarterly	depth integrated composite	1
Hardness	quarterly	depth integrated composite	1
Chlorophyll a	quarterly	depth integrated composite	1
Phytoplankton	quarterly	depth integrated composite	1
Zooplankton	quarterly	depth integrated composite	1
Bacteria	quarterly	grab	3
Nutrients	quarterly	depth integrated composite	1
Suspended Solids	quarterly	depth integrated composite	1
Sediment Metals	annual	grab	2*
Plant Metals	prior to harvests	composite	6**

* separate composite samples will be collected from arm and main lake stations to assess localization of pollutants near inflows

** plant samples for metal analyses will be collected from three main lake basin stations and three additional near-shore stations. Samples will be composited for analysis.

Trash cleanup by a professional lake management firm twice per month is budgeted to control litter.

Estimated management costs are shown in Table 7. Actual management costs will depend upon severity and frequency of algae and aquatic plant problems, which are a function of the efficacy of the prevention program for aquatic weeds and waterfowl. A 20 percent contingency is included in the budget for the first year to accommodate any changes in the Plan mandated by the City of Sacramento for flood control and/or water quality purposes. Such changes shall be at the discretion of the Department of Utilities. An Annual Report will be produced that summarizes

management activities and limnological characteristics of the lake. Limnological characteristics and management problems in the lake will likely change as the lake ages. The Annual Report will also include recommendations on changes to the Management Plan so that the management of the lake will adapt to changing conditions. Any changes to the Plan must be approved by the City.

ROLES AND RESPONSIBILITIES

It is the responsibility of the homeowners association to fund and implement the activities outlined in this Plan, and to maintain the lake in a condition that permits functioning as a flood control and water quality enhancement facility. It will not be the responsibility of the City of Sacramento to maintain the aesthetic appearance of the lake or manage nuisance conditions that may develop in the lake. The homeowner's association and the City will, however, work cooperatively on public education and enforcement of best management practices to maintain water quality and the aesthetic value of the lake. The City of Sacramento will do the following:

- maintain inlets to the lake and the outlet structure as needed to provide drainage and flood control;
- regulate the operations and maintenance of the lake to assure compliance with Federal, State, and local water quality requirements;
- determine if the homeowners association is maintaining the lake in a manner consistent with the City's flood control and/or water quality standards and take actions necessary to remedy any deficiencies if City standards are not met. The City may charge the homeowner's association for costs of remedial actions.

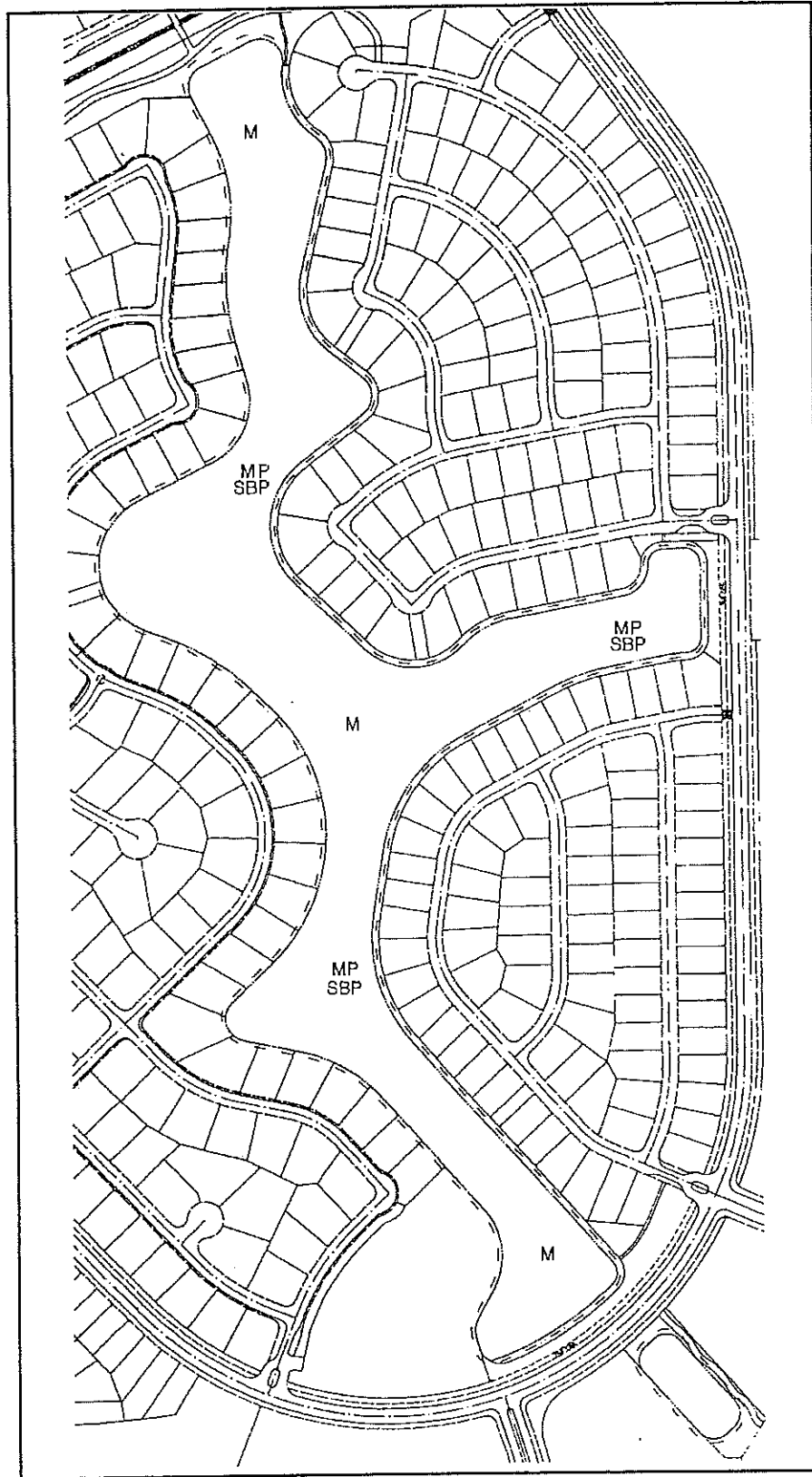


Figure 4. Approximate location of Westborough lake sampling stations.
(M=macrophyte metals, P=profile, B=bacteria, S=sediment metals)

Table 7. Estimated cost of Management Plan during first year.

Task 1. Monitoring	
Sampling	\$4,000
Laboratory analyses	\$12,000
	<hr/>
	\$16,000
Task 2. Public Education Program	\$500
Task 3. Twice/month Trash Clean up	\$2,500
Task 4. Establish Vegetation	\$7,500
Task 5. Algae Control	\$3,600
Task 7. Quarterly and Annual Reports	\$8,000
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	\$38,100
Contingency	\$7,620
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Total Cost	<hr/>
	\$45,720

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